

# Medicine & Veterinary Medicine

Postgraduate opportunities Prospectus 2013 entry



www.ed.ac.uk





THE UNIVERSITY of EDINBURGH

# Welcome to the University of Edinburgh: Influencing the world since 1583

## Our proud history and alumni ambassadors

For more than 400 years our people have been making their mark on the world. They've explored space, revolutionised surgery, won Nobel Prizes, published era-defining books, run the country, paved the way for life-saving breakthroughs and laid the foundations for solving the mysteries of the universe. By choosing further study or research at Edinburgh you will be joining a community of scholars who have been at the forefront of knowledge since 1583.

We are associated with 15 Nobel Prize winners, including physicists Charles Barkla and Max Born, medical researcher Peter Doherty, economist Sir James Mirrlees and biologist Sir Paul Nurse. Our famous alumni include NASA astronaut Piers Sellers, former MI5 Director-General Dame Stella Rimington, Olympians Sir Chris Hoy and Katherine Grainger and historical greats such as philosopher David Hume, physicist and mathematician James Clerk Maxwell, inventor Alexander Graham Bell and Sherlock Holmes creator Sir Arthur Conan Doyle.

### Teaching and research excellence

We are consistently ranked as one of the world's top 50\* universities. As host to more than 30,000 students from some 130 countries, studying across 100 academic disciplines, the University of Edinburgh continues to attract the world's greatest minds. World-leading research is produced by 96 per cent\*\* of our academic departments, placing Edinburgh in the top five in the UK for research. Our excellent teaching was also confirmed in the latest report from the Quality Assurance Agency, which awarded us the highest rating possible for the quality of the student learning experience.

## Collaborations and international partnerships

As an internationally renowned centre of academic excellence, Edinburgh is the site of many world-class research collaborations. Our postgraduate students are crucial to our continued success and development and, along with our staff, they forge research links through regular travel and overseas exchanges. We take pride in our partnerships with other institutions such as the California Institute of Technology, Stanford University, the University of Melbourne, Peking University, the University of Delhi and the University of KwaZulu-Natal – to name but a few.





# "You are now in a place where the best courses upon Earth are within your reach... such an opportunity you will never again have."

#### **Thomas Jefferson**

American Founding Father and President (speaking to his son-in-law, Thomas Mann Randolph, as he began his studies in 1786)

#### Linking research and commerce

Edinburgh was one of the first UK universities to actively develop commercial links with industry, government and the professions. Edinburgh Research and Innovation (ERI) has continued, for the past four decades, to develop the promotion and commercialisation of the University's research excellence. ERI assists our postgraduates in taking a first step to market, whether it is through collaborative research, licensing technology or providing consultancy services.

#### Enhancing your career

With the best track record for graduate employment in the Russell Group, the University of Edinburgh is committed to embedding employability into the teaching and learning experience. From offering access to volunteering schemes to providing support from our sector-leading Careers Service, the University gives students myriad opportunities to develop the skills, knowledge and experience to give them the edge in a competitive job market.

### An inspiring destination

Your first-class education will take place in one of Europe's most striking capital cities, which is regularly voted one of the best places in the world to live. Edinburgh enjoys a solid reputation as a centre for innovation, whether as home to the 18th-century Scottish Enlightenment or as a modern source of pioneering science, medicine and technology. You couldn't ask for a more inspiring setting in which to further your knowledge and broaden your horizons.

#### Join us

Edinburgh offers unparalleled academic breadth and diversity, making it a vibrant, challenging and stimulating environment for postgraduate study. Whether you plan to change direction, enhance your existing career or develop in-depth knowledge of your area of study, the University of Edinburgh provides a world-class learning experience.

\* Times Higher Education World University Rankings \*\* Research Assessment Exercise 2008



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youtube.com/edinburghuniversity

# Welcome to the College of Medicine and Veterinary Medicine

The College of Medicine and Veterinary Medicine is an internationally leading force in basic-to-clinical translational research and teaching. We have had a consistent, forty-year strategy of interdisciplinarity. Our approach ranges from molecules to man, from bench to bedside and from process to population. The College's researchers and students embrace our 'one medicine' ethos.

The most recent UK Research Assessment Exercise results confirm the College as the UK's top research medical school and its top research veterinary medical school. For further information please see **www.mvm.ed.ac.uk/ research/excellence**.

We offer our postgraduate students a dynamic experience. Here you will find world-class research, co-location of research centres to facilitate interdisciplinarity, state-of-the-art facilities, MRC-funded centres, co-location and close collaboration with NHS Lothian hospitals, all major imaging technologies, clinical trials support and commercialisation training and opportunities. The College's ground-breaking collaboration with Edinburgh BioQuarter, a landmark, life science real estate development on the Little France campus, will establish Edinburgh and Scotland as one of the world's major centres for biomedical commercialisation. The College offers enormous breadth and depth of research and learning opportunities. Key research themes include:

- cancer
- cardiovascular science
- health and welfare of animals
- application of basic animal sciences in human and veterinary medicine
- genetics and molecular medicine
- global health
- infectious diseases
- inflammation
- neuroscience
- regenerative medicine
- reproductive health.

Medicine at Edinburgh can trace its origins back nearly 500 years. Darwin, Simpson and Conan Doyle were students here. The Royal (Dick) School of Veterinary Studies was founded in 1823. For centuries, Medicine and Veterinary Medicine at Edinburgh have held an international reputation for research and teaching leadership and for improving the health and wellbeing of communities across the globe.



# Pioneering staff and students have included the following distinguished individuals:

- Joseph Lister, discoverer of life-saving antiseptic;
- Charles Darwin, world-renowned naturalist and author of *On the Origin of Species;*
- Sir James Young Simpson, the pioneer of chloroform use;
- Philip Syng Physick, often called the father of American surgery;
- James Syme, pioneering surgeon;
- Margaret Barry, the first woman to graduate from a British medical school;
- Richard Bright, sometimes known as the 'Father of Nephrology';
- William Gregory, who in the 1830s devised a procedure for crystallising morphine, opening up morphine's potential as painrelieving drug;
- Julius Jeffreys, inventor of the respirator in the early 1800s;
- Alexander Woods, who introduced the hypodermic syringe to administer drugs in 1853;
- Wong Fun, who in 1856 became the first Chinese person to obtain a degree from

a European university; James Horton, who graduated from Edinburgh MD in 1859 and was one of the first Africans to study medicine in Europe;

- Sir Henry Littlejohn, one of the most significant public health figures of the Victorian era;
- Sir Robert Philip, a pioneer in identifying the environmental dimension in contracting and treating tuberculosis;
- Sir George Beatson, the father of oophorectomy, the removal of the ovaries in order to prevent breast cancer;
- Thomas Addis, the first to describe the pathogenesis of haemophilia;
- Cuthbert Dukes, famous for his 1932 classification system for colorectal cancer;
- Sir John Crofton, who achieved one of the great medical breakthroughs of the twentieth century when he led the team that developed a cure for tuberculosis, which, in the 1940s, was the biggest killer of adults in the western world;
- Sir Paul Nurse, who is famed for his discovery of several key regulators of the cell cycle, a breakthrough for which he was awarded the Nobel Prize;
- Robert Edwards, awarded the Nobel Prize in recognition of his role in pioneering in vitro

fertilisation or IVF;

- Sir Kenneth Murray, one of the pioneers in the early development of methods for DNA sequencing;
- Matthew Kaufman, the first scientist, with Martin Evans of Cambridge, to culture the embryonic stem cells of mice and cultivate them in a laboratory, a major breakthrough opening up the potential of stem cell research;
- Ian Frazer, who discovered that human papilloma virus (HPV) could develop into cervical and other types of cancer.

There are many other illustrious persons not listed here.

Edinburgh veterinary practitioners took the Edinburgh model around the world with unprecedented success. William Dick was an outstanding practitioner who made great strides in establishing veterinary education in Scotland. Besides establishing the Vet School in 1823, he was appointed Veterinary Surgeon in Scotland to Queen Victoria in 1844.

Our more recent history includes the creation of the world's first animal to be cloned from an adult somatic cell, by the team of scientists led by Professor Sir Ian Wilmut.



# Facilities

We cater for our wide range of disciplines with extensive facilities and critical investment in order to create the perfect environment for discovery. Our facilities include:

- a new Medical School, adjacent to the Edinburgh Royal Infirmary at Little France;
- The Roslin Institute, now housed in a state-of-the-art building on a new, shared campus with the Royal (Dick) School of Veterinary Studies;

- a new, state-of-the art teaching facility for the Vet School, completed in 2012;
- the Queen's Medical Research Institute (opened in 2005), which houses three world-class medical research centres and more than 600 researchers;
- the Institute of Genetics & Molecular Medicine, home to around 500 worldleading medical researchers;
- Edinburgh Neuroscience, one of the largest neuroscience groupings in the world;
- our new Clinical Research Imaging Centre;

- the Wellcome Trust Clinical Research Facility with trials and clinical research governance support units;
- recently refurbished, pre-clinical research centres on the central campus;
- state-of the-art imaging technologies;
- a new Scottish Centre for Regenerative Medicine building, opened in mid-2012, also on our Little France campus;
- Edinburgh BioQuarter, a major medical research commercialisation initiative, currently under construction at Little France.



# Resources

The College supports the training and supervision of more than 1,300 postgraduate students. Research is organised across four Schools and five Institutes which in turn host 15 Centres. This equates to a wealth of interdisciplinary opportunities for our postgraduate community. Here we briefly introduce you to our areas of expertise.

# The School of Biomedical Sciences

Here we teach and research life sciences and how they relate to medicine. This includes how and why the body functions, causes of diseases and innovative cures and treatments. Research topics include genes and development, membrane biology, neuroscience, basic and clinical virology and bacteriology. We include the Centre for Integrative Physiology, the Centre for Neuroregeneration, the Centre for Cognitive and Neural Systems, the Centre for Infectious Diseases and the Division of Pathway Medicine.

# The School of Clinical Sciences

This includes the British Heart Foundation Centre for Cardiovascular Science, the Centre for Inflammation Research, the Centre for Regenerative Medicine where we focus on stem cell research and the Centre for Reproductive Health, the largest single investment in human reproductive health research in Europe.

## Edinburgh Postgraduate Dental Institute

Here we focus on the education and training of future dental specialists and dental care professionals, in an atmosphere of excellence and high quality clinical care.

www.epdi.org.uk

# The School of Molecular, Genetic and Population Health Sciences

This is a major hub for research with Medical Research Centre and Wellcome Trust backing. We currently attract grants of around £46 million. The School includes the Centre for Clinical Brain Sciences where we study the causes, consequences and treatment of brain disorder and the Centre for Population Health Sciences. We also hold the Edinburgh Cancer Research UK Centre, supported by Cancer Research UK and the Centre for Molecular Medicine, where we identify the molecular and cellular components of normal human development.

# The Royal (Dick) School of Veterinary Studies

We are a world leader in veterinary education and research. Established in 1823, we still lead the way in research. We are the largest concentration of animal scientists in Europe, possibly the world. Our School includes the newly refurbished Roslin Institute, where we investigate animal diseases and develop sustainable animal production, the Moredun Research Institute, the Scottish Agricultural College and the Easter Bush Research Consortium.

# Global Health Academy

The University's Global Health Academy brings together a wide range of expertise, crossing all boundaries in global health. Because global health is not one single discipline, but multiple disciplines cutting across traditional institutional functions and boundaries, the University saw the sense in bringing together existing world-class research in distinct disciplines around the University in order to deliver a greater impact on global health. For example, public health and clinical physicians work closely with our leading anthropologists, biomedical scientists, epidemiologists, geographers, health economists, management specialists, mathematicians, political scientists and sociologists. The umbrella of the Global

Health Academy also extends outwards to specialists across the globe, who wish to lend their expertise to our training and teaching or research for shorter or longer periods of time.

# Research Centres

Our five Institutes are home to 15 dynamic and interdisciplinary Centres, all undertaking world-leading research in priority biomedical research areas. Please visit our websites, listed below, for detailed information.

## Queen's Medical Research Institute

Centre for Cardiovascular Research www.cvs.med.ed.ac.uk

Centre for Inflammation Research www.cir.med.ed.ac.uk/index.asp

MRC Centre for Reproductive Health www.crh.ed.ac.uk

Centre for Regenerative Medicine www.crm.ed.ac.uk

## Edinburgh Neuroscience

Centre for Clinical Brain Sciences www.ccbs.ed.ac.uk

Centre for Cognitive and Neural Systems www.ccns.sbms.mvm.ed.ac.uk

Centre for Neuroregeneration **www.cnr.ed.ac.uk** 

Centre for Integrative Physiology www.ed.ac.uk/schools-deaprtments/ interactive-physiology

# Institute for Genetics and Molecular Medicine

Edinburgh Cancer Research Centre **www.ecrc.ed.ac.uk** 

Centre for Molecular Medicine www.mmc.med.ed.ac.uk

Centre for Population Health Sciences www.chs.med.ed.ac.uk/cphs

### The Roslin Institute

The Roslin Institute www.roslin.ed.ac.uk

# Edinburgh Infectious Diseases

Edinburgh Infectious Diseases www.eid.ed.ac.uk

# Community

# Within the College of Medicine and Veterinary Medicine, we aim to foster a close community of postgraduate staff and students.

On campus, masters students work closely with their classmates through tutorials, lectures and seminars, becoming part of a close-knit group over the duration of their programme.

Distance isn't a barrier for our online distance learning students, a diverse group of people from all over the world unite through their academic interests. Using our award-winning interactive learning environment, our online students and tutors maintain a supportive, international, virtual community that remains the key to successful online study.

Research students join an individual research centre within the College and within each centre there are both social and academic opportunities to integrate with the wider postgraduate community, such as through seminar series, team-building and development exercises at College and University level or through the University's Postgraduate Society.

All postgraduates are able to participate in Edinburgh Electronic Postgraduate Portfolio (EEPoP). EEPoP is a web-based communication, information and portfolio facility for postgraduate students and all those involved with teaching, supervising and administering them.

Networking spaces are vital in the fostering of a strong community and we are fortunate within the College to have excellent communal spaces for this purpose on all of our campuses. Joining professional societies can also be beneficial to postgraduate training and allows membership of a wider academic community. In many cases societies offer travel grants for students and membership usually entitles reduced or waived registration fees to society meetings.

As a postgraduate student within the College, you will have access to all the support services available across the University, ranging from the Careers Service, International Office and the Students' Association through to the independent Advice Place and the Student Counselling Service. For more information on our support services please visit **www.** ed.ac.uk/schools-departments/supportservices.



# Employability and graduate attributes

The University is here to support you in the successful completion of your postgraduate training and to prepare you for your career. We provide information and advice on how to plan your career and develop the skills you will need now and in the future.

Throughout your postgraduate studies we support you with advice and online training on effective study, exams and assignments, numeracy and data analysis, specific postgraduate writing skills and finding and using academic sources.

We offer learning opportunities to develop your information and IT skills, for personal development and to help you work, study and research more effectively.

We run a series of workshops for taught masters students specifically: *Masters Study Skills: Critical Reading, Essay Planning and Writing.* 

Our PhD students can develop their research planning skills, professional development, communication and IT skills through a wide range of courses developed specifically with the medical and veterinary medicine sectors in mind.

# Institute for Academic Development

All of our postgraduate students have the opportunity to benefit from the University's Institute for Academic Development (IAD), which provides information, events and courses to develop the skills you will need now and in the future.

The IAD offers one of the most established university research and career skills training packages in the UK. Our IAD experts will help you gain the skills, knowledge and confidence needed to move onto the next stage in your career, be that in a professional sector or within academia.

The Institute provides PhD researchers and masters by research students with dedicated training in topics such as research management; personal effectiveness; communication skills; public engagement, networking and team working; leadership and career management. You can gain expertise in information technology and presentation skills; confidence in undertaking independent and creative research; the ability to critically evaluate source materials; and the capacity to construct intellectually rigorous arguments.

For taught postgraduates, the IAD provides a growing range of tailored study-related and transferable skills workshops, plus online advice and learning resources. These are all designed to help you settle into postgraduate life, succeed during your studies, and move confidently onwards to the next stage of your career.

Developing these broader professional skills and qualities means that our postgraduate students are always in high demand. For more information please visit **www.ed.ac.uk/iad/postgraduates**.

# Careers Service

The University's award-winning Careers Service aims to expand the horizons of all our students, enabling you to make informed career decisions and progress towards high personal and professional achievement, whether in work or in further study. Our goal is to offer you a world-class service. Our teams of subject-specific expert advisers are here to help at any time in your programme of study. We offer impartial guidance and information, and draw on our relationships with a wide range of employing and training organisations. For more information on the full range of services available, including access to vacancies, advice on starting your own business, getting published, working internationally or even volunteering, visit the postgraduate section of our website at www.ed.ac.uk/careers.





# Flexible, online, distance learning masters programmes

# Our flexible, online, distance learning masters programmes are making a difference to a new generation of postgraduate students across the world.

We've been offering innovative postgraduate programmes online since 2005 and now have more than 20 different programmes for you to choose from. With more than 800 online students, we can assure you that we take the delivery of online teaching as seriously as we do on-campus. You can choose to study at a time and in a place that suits you, saving relocation costs and allowing you to maintain professional and personal commitments. Please note that some programmes in this section can be taken as intermittent study and tuition fees are therefore charged on a course-by-course basis. Fees quoted here refer to full time annual fees only.

Our online learning technology is fully interactive, award-winning and enables you to communicate with our highly qualified teaching staff from the comfort of your own home or workplace. In fact, we give you as much access to our staff as if you were here in Edinburgh. Our online students not only have access to Edinburgh's excellent resources, but also become part of a supportive online community, bringing together students and tutors from around the world. When you consider the benefits of flexible online study, it's not surprising even locally based professionals choose this option.

#### BIODIVERSITY, WILDLIFE AND ECOSYSTEM HEALTH

#### www.ed.ac.uk/pg/646

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This programme provides a broad approach to conservation management that lets you assess and comprehend all aspects of ecosystems, aiming to conserve and maintain their sustainability in both the developing and developed world. It brings together expertise from our Global Health Academy, the Royal (Dick) School for Veterinary Studies and the Royal Zoological Society of Scotland (RZSS). It also enjoys support from the International Union for Conservation of Nature (IUCN).

#### Programme structure

The programme is delivered using innovative online learning. It involves a mixed teaching approach including independent study and reflection, as well as online discussion and group project work.

#### Year 1: certificate

You study the following areas: evolution and biodiversity, ecosystem health and sustainability. You also study two of the following courses: *Global Citizenship; Ex Situ Wildlife Management; Introduction to GIS and Spatial Data Analysis;* or *Managing Ecosystems for Human Health and Wellbeing.* 

#### Year 2: diploma

You choose six optional courses from the following:

Arthropod Vector Biology; Biomedical Research Methodologies; Climate Change, Policy and Practice; Communication and Public Engagement of Conservation; Conservation Genetics; Environmental Law; Extreme and Fragile Ecosystems; Invasive Non-Native Species; Introduction to Project Cycle Management; Land Use and Food Security; Population and Habitat Viability Assessment; Surveillance and Control of Transboundary Diseases Affecting International Trade; The Marine Environment; The Modern Zoo; Wildlife Animal Health and Environments; The Use of Artificial Reproduction Technology in Threatened Species; Water and Sanitation; Wildlife Crime and Forensic Investigation and Zoonotic Diseases.

#### Year 3: masters

You complete your own choice of dissertation of 10,000-15,000 words.

#### Career opportunities

This programme has been designed to help you find work in environmental, intergovernmental, national and international agencies, as well as lobby groups, NGOs and other research groups.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www. ed.ac.uk/international/country**), in a zoological, biological, environmental, veterinary or a relevant bio-science topic. Applicants with relevant work experience may be considered on a case-by-case basis.

#### **English language requirements** See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### Programme Director

Sharron Ogle E: WEB.onlineMSc@ed.ac.uk



# **CLINICAL EDUCATION**

www.ed.ac.uk/pg/246

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

Our Clinical Education programme takes advantage of our world-renowned expertise to enhance your abilities to teach and assess students in a clinical environment. This is an ideal programme for those responsible for tutoring health care professionals and veterinary practitioners, including doctors, nurses, dental practitioners and those involved with veterinary education.

Our aim is to help you reflect upon, and share thoughts about, your practice, while increasing your understanding of how to apply educational theories and evidence from the literature. As a result you will learn the knowledge and skills you need to deliver, develop and research high-quality clinical education in your own discipline.

#### Programme structure

There are three courses at the certificate stage, three at the diploma stage and this is followed by your thesis in the third year. We deliver lectures and tutorials online and you will be expected to use self-directed learning, peer-discussion boards, tutorials, peer presentations and other similar e-learning activities to help engage with and get the most from the course materials.

#### Year 1: certificate

Courses include: Principles of Teaching and Learning; Assessment; Examinations and Standard Setting; The Curriculum.

#### Year 2: diploma

Appraising and Developing the Individual; Research in Clinical Education Policy; and Leadership, Management and Evaluation.

#### Year 3: masters

A research report of approximately 15,000 words.

#### **Career opportunities**

This programme has been designed to enhance your prospects as a teacher and instructor in human or animal health.

#### Minimum entry requirements

A primary clinical qualification, such as an MBChB, BVS, BDS, Bachelor of Nursing, or equivalent. Applications from those with biomedical science qualifications or non-university professional qualifications such as RGN with appropriate clinical experience will be considered on an individual basis. You must be currently involved in clinical, medical, allied healthcare or veterinary education – for example teaching undergraduate or postgraduate students.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £2,820 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Michael Ross E: clinicaleducation@ed.ac.uk

### COGNITIVE AGEING RESEARCH METHODS

#### www.ed.ac.uk/pg/647

Certificate 1 yr PT

#### Programme description

This one-year certificate is aimed at individuals with an interest in ageing and geriatric medicine. It will provide medical scientists, or scientists in a related discipline, with the expertise and cutting-edge knowledge you need to help you advance future research in this area. It is offered by our Centre for Cognitive Ageing and Cognitive Epidemiology, a centre of excellence to advance research into how ageing affects cognition, and how mental ability in youth affects health and longevity.

#### Programme structure

A variety of delivery methods will be employed, but the core material will be delivered via a virtual learning environment.

This programme will give you expertise in these areas:

- classic and up-to-date findings and theories in cognitive aging and cognitive epidemiology;
- the latest and most relevant research techniques;
- a strong understanding of the governance framework that covers cognitive ageing research;
- the skills and abilities to let you carry out your own cognitive ageing research;
- the breadth of understanding to critically analyse other research methods and findings.

#### Career opportunities

This programme recognises the need for qualified research professionals in cognitive ageing and will provide students with a strong base of research skills with which to develop a research portfolio in this field.

#### Minimum entry requirements

You must be a fully registered medical practitioner in higher, specialist training, with MRCP (UK), MRCPsych or equivalent, or have a UK 2:1 undergraduate degree in a cognate subject, for example, psychology, biomedical sciences or neuroscience.

#### **English language requirements**

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

John Starr E: Beverly.Roberts@ed.ac.uk

#### CONSERVATION MEDICINE

www.ed.ac.uk/pg/791 MVetSci/Dip/Cert 3-6 yrs, 2-4 years or 1-2 yrs PT

#### Programme description

This programme is designed to address the demand for online training in conservation medicine and provides in-depth training in a modular flexible format, ideal for veterinarians who wish to achieve a world-class award while maintaining busy professional and personal commitments. Participants will gain the capacity and necessary expertise to contribute effectively to this rapidly growing multidisciplinary field and to enhance career opportunities.

#### Programme structure

The programme is delivered in an online environment that provides a dynamic and collaborative learning experience. It is taught part time over three years (or up to six years for intermittent study). Each year will consist of three, 11-week terms, structured into two blocks of five weeks of study, with a week in between for independent study and reflection. Expert tutors will support you through every stage of the programme and you can engage with fellow students in supportive and constructive online networks. Assessment of progress is achieved by online presentations, essays, critical reviews of literature, student selfreflection activities, short answer questions, scientific posters, group wiki events, and peer review activities.

#### Year 1

Courses include: Introduction to Conservation Medicine; Eco-System Health and Species Conservation; Applied Epidemiology, Surveillance and Risk Assessment.

#### Year 2

You will study two core courses: *Veterinary Techniques and Interventions for Conservation Medicine* and *Wildlife Disease Management;* plus four optional modules from a choice of 10.

#### Year 3

During the written reflective element of the programme students will have the opportunity to further develop their scientific skills and utilise scientific theory. This written element allows a choice of either a written dissertation, a casebook relating to relevant professional experience, a personal portfolio of reflective and practical activity, or a short research project.

#### **Career opportunities**

Graduates can use their conservation medicine qualification to enhance their career prospects in academia, research, governmental and non-governmental organisations and consultancies.

#### Minimum entry requirements

A relevant undergraduate veterinary degree.

**English language requirements** See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### **Programme Director**

Anna Meredith E: Conservation.medicine@ed.ac.uk

# EQUINE SCIENCE

#### www.ed.ac.uk/pg/239

MSc/Dip/Cert 3-6 yrs, 2-4 yrs, 1-2 yrs PT

#### Programme description

This programme involves an in-depth scientific approach to managing health and welfare, reproduction, behaviour, nutrition and exercise for horses. You will also learn how to practically apply a scientific approach to benefit horse health, welfare and performance.

Our programme uses our award-winning online learning environments allowing you to work closely with your fellow students and tutors in a properly supported, collaborative and vibrant online learning environment.

#### Programme structure

#### Year 1: certificate

*Scientific Methodology Equine Digestion and Nutrition Equine Behaviour and Welfare* 

#### Year 2: diploma

Equine Orthopaedics Equine Reproduction Equine Exercise Physiology

#### Year 3: masters

Your dissertation of 10-15,000 words will allow you to analyse and present relevant research data that you have collected so far. Alternatively, you can undertake desk study to explore and develop your own area of interest.

#### Career opportunities

Graduates from this research-rich, taught MSc will be prepared for employment in research establishments, such as universities and research institutions, industry, such as feed companies, stud farms, pharmaceuticals and consultancy firms, government organisations, such as ADAS and DEFRA, and welfare organisations such as the RSPCA, WSPA and LPH.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see **www.ed.ac.uk/international/country**), in veterinary science or a biological science, with subject areas including zoology, animal/equine science or pharmacology/pharmacy.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Jo-Anne Murray E: Equine.Science@ed.ac.uk

### **GENERAL SURGERY**

www.ed.ac.uk/pg/697

ChM 2 yrs PT

#### Programme description

This two-year, part-time masters programme is offered jointly by the Royal College of Surgeons of Edinburgh and the University of Edinburgh, and is taught entirely online.

You will be taught by experienced tutors – all leading clinicians in their field – and you will have access to well-defined and managed learning resources and educational material, including an unparalleled online library facility. Illustrative cases will cover technical skills and procedures as well as core knowledge and clinical skills.

#### Programme structure

Based on the UK Intercollegiate Surgical Curriculum, this programme allows you to select advanced modules that match your declared subspecialty, and supports your study towards the Fellowship of the Royal College of Surgeons (FRCS) examinations.

#### Year 1

Compulsory modules will cover the basic elements of subspecialties, for instance, emergency surgery and critical care including the assessment and the pre-/peri-/post-operative care of the surgical patient. These modules will be taught and assessed using a clinical problem-based approach, supported by systems-based review of the course material.

#### Year 2

You undertake a tailored academic module that reflects your subspecialty. You will explore research and teaching methodology, develop your skills in analysing published evidence and explore interactive and written clinical communication skills. You will also complete an academic critique in a subspecialty area of work.

#### **Career opportunities**

The ChM provides advanced training for surgeons preparing for the intercollegiate fellowship examination and those approaching consultancy.

#### Minimum entry requirements

A basic medical qualification recognised by the General Medical Council. You should also have acquired MRCS (or equivalent assessment milestone) and be an Advanced Trainee in General Surgery (ST [specialist training years] 5/6 in UK or equivalent if outside UK).

# English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £4,225 per year.

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Programme Director

James Garden E: gensurginfo@rcsed.ac.uk

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#### ChM in General Surgery



"The ChM programme is a great practical and academic exercise for surgeons at the end of their general surgical training, looking to consolidate their knowledge as they prepare for independent practice. The ChM is intense, competitive and comprehensive. The structure develops consultant-level critical thinking and judgment, and encourages concise articulation of your care plan for patient evaluation, management and operative technique.

The pace is fast: at times daunting. The cases are challenging and relevant to surgical practice. You are in an 'e-class' with other surgeons who push you to be current and timely in your responses. It's a great way to share what everyone is thinking about a case. When you're online at the same time as the tutor the exchange and responses can be real-time, very much like being in small-group discussion.

Having now learned a pace and rhythm that works for me, I am enjoying the blog/comment style of the discussion boards. Your fellow e-classmates and e-moderator push you to participate meaningfully in the discussion, preparing for which ultimately helps you grow into the next level as a surgeon."

## GLOBAL HEALTH AND INFECTIOUS DISEASES

www.ed.ac.uk/pg/413

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

In the past few decades there has been almost one new disease emerging each year and more than 75 per cent of these diseases derive from zoonotic origins. There is now more demand for investment and research to help us manage these diseases better. This programme aims to address these challenges by offering you courses in surveillance, prevention and control of infectious diseases, as well as evaluating how they impact public health.

Our online learning system lets you work entirely from your home location while still earning your salary. This can enhance your learning experience and working knowledge while rewarding you with a highly regarded qualification.

#### Programme structure

#### Year 1: certificate

Courses include: *Introduction to Global Health; Understanding Infectious Diseases;* plus one or two of the following: *Applied Epidemiology and Public Health; Global Citizenship; Globalisation and Health;* and *Zoonotic Diseases.* 

#### Year 2: diploma

Choose six courses from:

An Introduction to Project Cycle Management; Challenges of Drug Development: Past and Future; Childhood Mortality; Emerging Infectious Diseases; Global Aid; Global Citizenship; Globalisation and Health; Interdisciplinary Integrative Skills; Introduction to GIS and Spatial Analysis; Neglected Tropical Diseases; Public Health Systems in the Developed and Developing World; Public-Private Partnerships for Health, Scientific Innovation and Development; Sexually Transmitted Infections; Technological Advances in Diagnosis; The Communication of Disease Control; Translational Strategies, Policy and Regulation, and Stakeholder Engagement; Travel Medicine and Infectious Disease; Water and Sanitation; and Zoonotic Diseases.

#### Year 3: masters

Choose one of the following:

A written reflective element (10-15,000 words) or *Project Cycle Management* and a funding application.

#### **Career opportunities**

This programme has been designed to help you fulfil leadership roles in international and national organisations that manage health and disease issues.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see **www.ed.ac.uk/international/country**), in biomedical, medical, public health and veterinary personnel or relevant bio-science topic. Relevant work experience in the human or animal health sectors may be considered. Applicants who fall below these entry requirements, but have relevant work experience may be considered on a case by case basis. You may be admitted to the Certificate level only in the first instance.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### **Programme Director**

Kim Picozzi E: GHID.onlineMSc@ed.ac.uk

### **GLOBAL HEALTH CHALLENGES**

www.ed.ac.uk/pg/793

Cert 1 or 2 yrs PT

#### Programme description

The programme is designed to equip those already working in global health and development, or those planning to work with international and national health agencies, with the tools, knowledge and skills to engage with complex problems related to equitable and just health and well-being. It will also be of immense value for those interested in global development and aid, and for those interested in careers in health journalism, or work in international business in the health and social care fields, and in corporate social responsibility and sustainability.

The programme will utilise the particular expertise that the University of Edinburgh and its global partners offers in global health including its medical, nursing and biomedical excellence, and its political and social science health.

#### Programme structure

The programme is delivered using an innovative blend of online learning opportunities supported by online learning environments. It will involve mixed teaching approaches with world expert leaders, online discussion, group project work, and independent study and reflection.

After taking this programme, graduates can also take two further postgraduate certificates in Global Development Challenges and Global Environment Challenges. Completion of all three certificates leads to an MSc in Global Challenges.

On completion of this certificate, you will have an understanding of the processes and procedures by which the global health agenda is shaped; analytical and conceptual skills able to critically evaluate the nature of the global health issues and to understand the interconnectedness of health with social, environmental, psychological and economic determinants; and in-depth knowledge of some of the major health challenges and innovative ways of responding to them.

#### **Career opportunities**

Graduates will have an understanding of the knowledge and skills required for pursuing a career with global health agencies, political institutions, business or in academia.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see **www.ed.ac.uk/international/country**), in medicine, nursing, social science, science, biomedicine, or other related discipline. Applicants who fall below these entry requirements, but have relevant work experience, may be considered on a case by case basis.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Liz Grant E: liz.grant@ed.ac.uk

# GLOBAL HEALTH: NON-COMMUNICABLE DISEASES

#### www.ed.ac.uk/pg/623

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

Non-communicable diseases and illnesses, which includes diabetes, mental illness, heart disease and stroke, cancers and chronic respiratory conditions account for 60 per cent of all deaths worldwide. Around 80 per cent of this figure are in low and middle-income countries. This programme looks at the impact of this burden of diseases and explores how different health systems are tackling these multiple risks with prevention, treatment and care services.

Our online learning system lets you work entirely from your home location while still earning your salary. This can enhance your learning experience and working knowledge while rewarding you with a highly regarded qualification.

#### Programme structure

#### Year 1: certificate

Introduction to Global Health Epidemiology for Health Professionals Globalisation and Non Communicable Diseases

#### Year 2: diploma

Select from a range of courses: The Burden of Diabetes in the Developing World; Palliative and End-of-Life Care in an International Context; HIV and Non-Communicable Diseases; Public Health Systems in the Developed and Developing World; Project Management for effective Global Public Health Programmes; The Global Burden of Mental Illness; Cultivating Communities of Practice: Leadership and Management within Multi-Disciplinary Teams; Family Medicine in Developing and Emerging Economy Health Care and its Role in Non-Communicable Disease Management; Maternal Health, Child and Newborn Health; Global Health Challenges; Health Inequities and the Social Determinants of Health; and Evidence-Based Medicine.

#### Year 3: masters

You will complete a written reflective element project development analysis plan (10-15,000 words).

#### **Career opportunities**

This programme is designed to help you advance in your health career. There is a strong emphasis on leadership and development training and policy, which will help you build, support and manage multi-disciplinary health and social care teams.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see www.ed.ac.uk/international/country), in medicine, nursing, social science, science, biomedicine, or other related discipline. Applicants who fall below these entry requirements, but have relevant work experience may be considered on a case by case basis. You may be admitted to the certificate level only in the first instance.

#### **English language requirements**

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Liz Grant and Ruth McQuillan E: NCD.onlineMSc@ed.ac.uk

# **GLOBAL HEALTH STUDIES**

www.ed.ac.uk/pg/702

Cert 1-3 yrs PT

#### Programme description

This programme is designed to enable those with a personal, academic or professional interest in 'global health' to study a variety of related subjects and join colleagues and fellow students in a global community. The courses studied are selected by students (subject to minimum numbers and schedules) and the successful completion of 60 credit points within a 36-month period entitles the student to the award of the certificate.

The breadth of content is unique (drawn as it is from at least four current online Masters programmes) and the programme offers an opportunity to discuss the issues with colleagues in a genuinely global forum. Within this programme students can study subjects including biodiversity, global heath, infectious and non-communicable diseases, animal health, sanitation and water issues, conservation and global citizenship. Some courses benefit from a scientific background although this is not a requirement.

The emphasis is on the interdisciplinary nature of the subject and this is reflected by the wide range of courses it is possible to study within the programme.

#### Programme structure

The courses are taught entirely online with extensive use of discussion forums in which students are encouraged to debate relevant issues with course tutors and colleagues.

#### Certificate

This is a postgraduate certificate for students from a diverse professional background but with a common interest in global health. The programme is modular, offering a flexible student-centred approach to the choice of courses studied; students may choose to study one or more individual courses or complete a sufficient number of course credits to be awarded the certificate. It takes between 12 and 36 months to complete the certificate.

#### **Career opportunities**

The programme is structured to equip students with a comprehensive knowledge base in various aspects of Global Health. We value interdisciplinary debate on our courses and effective, professional communication skills form an important part of the outcomes of the programme. Graduates can use their qualification to enhance their career prospects in international and national organisations that manage global health issues.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent, in biosciences.

English language requirements See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Kim Picozzi E: GlobalHealth.Studies@ed.ac.uk

#### **INTERNAL MEDICINE**

www.ed.ac.uk/pg/692

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This programme will give you a comprehensive understanding of the processes, investigation procedures and treatment options for common diseases you encounter in general medical practice. We cover basic physiology, pathophysiology, therapy and clinical management, as well as clinical skills, generic skills (including writing and research methods) law, ethics and prescribing ability. The programme is mostly for early postgraduate doctors. It complements the learning you need to achieve membership of the Royal College of Physicians and it may also be suitable for doctors in other specialties, or nurse consultants and other paramedical specialists with extensive clinical experience.

#### Programme structure

Problem-based learning through clinical case scenarios will be used to enhance knowledge and clinical decision making. We use a variety of e-learning resources and platforms including a virtual classroom with online tutorials and lectures, online interactive resources and virtual patients.

This programme is made up of compulsory and optional courses.

#### **Compulsory courses**

Clinical Pharmacology; Science of Medicine; Laboratory Medicine; Imaging in Medicine; Acute Medicine and Clinical Decision-Making; Clinical Skills (Communication, Examination and Medical Procedures); Introductory Skills (IT Skills, Research/Literature Evaluation and Writing Skills); and Research Methods.

#### **Optional courses**

Cardiology; Dermatology; Respiratory; Haematology; Neurology; Clinical Genetics; Gastroenterology; Diabetes and Endocrinology; Renal; Oncology; Global Health; Stroke; Translational Medicine; Emerging and Neglected Infectious Diseases; Clinical Education and Teaching; Health Informatics; Medical Ethics; Medicine and the Law; Palliative Care and Pain Management; Principles of Quality Improvement in Healthcare; and Patient Safety.

#### **Career opportunities**

This programme is designed to help medical professionals gain the next step in their medical career, with a highly regarded qualification and first-rate expertise.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see **www.ed.ac.uk/international/country**), in medicine or a clinically relevant subject, plus work experience in a clinical context. Applicants who fall below these requirements but have relevant work experience may be considered on a case-by-case basis. You may be admitted to Certificate level only in the first instance.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Neil Turner E: internal.medicine@ed.ac.uk

#### INTERNATIONAL ANIMAL HEALTH

www.ed.ac.uk/pg/241

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This online MSc will equip you with the skills to identify, control and manage animal diseases and will give you the expertise to tackle the animal health challenges of the future.

Livestock are vital to the lives of millions of people, but endemic and epidemic diseases that affect livestock limit productivity and exacerbate poverty. The diseases that can be transmitted between animals and people also threaten the health of livestock keepers, their families and their communities. In many developing regions farmers and animal health workers are often ill equipped to deal with this risk. This programme draws together expertise from across the University to deliver first-class teaching and research to tackle these issues.

#### Programme structure

#### Year 1: certificate

Applied Epidemiology, Surveillance and Risk Assessment Host Responses to Infection Pathogen Strategies for Transmission and Survival

#### Year 2: diploma

Choose six from:

Artificial Reproduction Technology and Wildlife; Control of Economically Important Parasites; Globalisation and Health; Introduction to GIS and Spatial Data Analysis; Introduction to Project Cycle Management; New Developments in Epidemiology and the Control of Vector Borne Disease; Project Planning and Decision Support for Animal Disease Control; Risk Management through use of Applied Veterinary Epidemiology; Surveillance and Control of Trans-Boundary Diseases Affecting International Trade; Technology Advances in Veterinary Diagnostics Veterinary Vaccinology; The Modern Zoo; Wildlife Animal Health and Environment; Zoonotic Diseases.

#### Year 3: masters

Choose one of the following:

A written reflective element (10–15,000 words) or *Project Cycle Management* and a funding application.

#### **Career opportunities**

This programme has been designed to enhance your career in animal management throughout the world with first-rate expertise and a highly regarded qualification.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (please see **www.ed.ac.uk/international/country**), in veterinary medicine, agricultural science, biology or a related science discipline. Applicants who fall below these requirements but have relevant work experience may be considered on a case-by-case basis. You may be admitted to Certificate level only in the first instance.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Ewan Macleod E: iah.onlineMSc@ed.ac.uk

# INTERNATIONAL ANIMAL WELFARE, ETHICS AND LAW

#### www.ed.ac.uk/studying/pg/788

MSc/Dip/Cert 3-6 yrs, 2-4 yrs or 1-2 yrs PT

#### Programme description

The overall objective of this postgraduate taught programme is to provide knowledge and an understanding of animal welfare science, with a focus on the international issues arising from animal use in all its forms. This programme offers you the chance to learn: history, culture and concepts of animal welfare; animal behaviour; animal welfare assessment; animal ethics; recommendations and policy; legislation, regulation and enforcement; and science communication. Additionally, there will be courses offered on the key topics in applied animal welfare such as production, companion and captive wild animals. The programme is run by researchers and teachers from both the Jeanne Marchig International Centre for Animal Welfare Education (within the Royal (Dick) School of Veterinary Studies) and the Scottish Agricultural College (SAC) with a series of guest lecturers from around the world. We will develop an online community within and around the programme to help students enhance their networking and problem-solving skills.

#### Programme structure

This online distance learning programme is delivered by recognised experts in the various subject areas and will draw on the extensive staff expertise at the University of Edinburgh and SAC, as well as from other institutions internationally. A blend of online learning methods are utilised, such as discussion forums, podcasts and live tutorials. This online distance learning programme is modular, allowing us to offer a flexible student-centred approach to the choice of courses studied.

#### Year 1: certificate

For the certificate, you must take two compulsory courses – *International Animal Welfare Science*, and *Animal Ethics, Policy and Law* – plus an optional course.

#### Year 2: diploma

You can choose up to 60 credits of optional courses, which include Animal Welfare in Research, Testing and Education; Production Animal Welfare; Companion Animal Welfare; and Captive, Free Range and Wild Animal Welfare.

#### Year 3: masters

You complete your dissertation of 10,000–15,000 words, on a topic of your choice.

#### **Career opportunities**

Graduates can use their qualification to enhance their career prospects in academia, research, governmental and non-governmental organisations and consultancies.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in animal science, biology, psychology, zoology or veterinary science.

# English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### **Programme Director**

Fritha Langford E: jm.welfare@ed.ac.uk

### NEUROIMAGING FOR RESEARCH

#### www.ed.ac.uk/pg/234

MSc/Dip/Cert 3-6 yrs, 2-4 yrs, 1-2 yrs PT

#### Programme description

Neuroimaging research techniques are now in demand from more areas of research that require expert understanding of brain function. These include neuroscience, psychology, pharmacology, informatics, physics, computer science, neuroradiology and linguistics.

This flexible, part-time, online programme allows you to improve your neuroimaging expertise and gain a highly regarded masters qualification, while remaining at work in your field and in your own location.

This is a distance learning programme delivered entirely online using a combination of online tuition, multimedia interactive learning materials, peer-to-peer discussion and independent study. A professional team of neuroimaging experts and e-learning technologists will support your progress.

#### Programme structure

#### Year 1: certificate

Techniques and Physics Applications in Disease Common Image Processing Techniques Practicalities of MR

#### Year 2: diploma

Anatomy Statistics Study Design and one of Common Image Processing Techniques 2; Functional Imaging; Image Analysis or Translational Imaging and Clinical Trials.

#### Year 3: masters

Practical work/assessments

#### Career opportunities

This programme is an ideal programme to help you in your neuroimagingresearch based career, giving you advanced and well recognised expertise in the field.

#### Minimum entry requirements

A UK 2.1 undergraduate degree, or its international equivalent (see **www. ed.ac.uk/international/country**), in neuroscience, physiology, pharmacology, informatics, psychology, physics or a related subject. Students and professionals with a radiography gualification or a medical degree are also welcome to apply.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Joanna Wardlaw E: kaska.hempel@ed.ac.uk

### PAEDIATRIC EMERGENCY MEDICINE

www.ed.ac.uk/pg/667

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This programme is aimed at high-calibre graduates in medicine or nursing involved in the management of clinical emergencies in children. It has been designed to give you the educational background you need to manage medical emergencies in children, throughout the world. It is ideal for trainees in paediatrics and emergency medicine, and also highly relevant for anaesthetists who wish to develop skills in paediatric anaesthesia or paediatric intensive care. It will also help primary care practitioners who work in remote and rural areas without paediatric support. The programme provides the only academic recognition available at masters level. The final year of the programme can be tailored to your circumstances and career goals.

#### Programme structure

#### Year 1: certificate

You will choose three courses in the fundamentals of paediatric emergency medicine from a wide selection.

#### Year 2: diploma

Compulsory courses are: Medical Emergencies Surgical Emergencies & Trauma/Anaesthesia & Sedation Plus you choose two optional courses from: Paediatric Musculoskeletal Medicine Infectious Disease and Immunisation in Paediatrics Paediatric Dermatology and Allergy Public Health and Paediatric Emergency Medicine Organisation Paediatric Toxicology.

#### Year 3 masters

You will study the compulsory course: *Controversies in Paediatric Emergency Medicine* and complete a written reflective element.

#### **Career opportunities**

This programme has been designed to help you achieve a successful career in paediatric emergency medicine with a high quality qualification and the latest understanding and knowledge.

#### Minimum entry requirements

A medical degree (MBChB or equivalent) plus one year of clinical experience.

#### English language requirements:

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Programme Director

Paula Midgley E: tanya.lamont@ed.ac.uk

# PAIN MANAGEMENT

www.ed.ac.uk/pg/202

MSc/Dip/Cert 3-6 yrs, 2-4 yrs, 1 yr PT

#### Programme description

This programme follows the core curriculum of the International Association for the Study of Pain. The courses are clinically relevant and informed by international research. We cover the relevant basic sciences, concepts of pain, and clinical approaches and procedures for acute and chronic management of pain, from a multi-profession team perspective. This programme will give you the knowledge and skills you need to be able to manage pain more effectively.

#### Programme structure

Four compulsory courses provide a solid foundation in the fundamentals of pain management, while the optional courses offer you the opportunity to explore your areas of interest and to tailor the programme to your own clinical career.

#### Compulsory courses

Introduction to Pain Management Pain Mechanisms and Contributors Principles of Pain Treatment and Management Pain Conditions.

#### **Optional courses**

Cancer Pain Musculoskeletal Pain Concepts of Pain Clinical Attachment/Case Study Pain in Children Pain in Older People Psychological Approaches in Pain Management Disability and Pain Rehabilitation Orofacial Pain Pharmacology of Pain Neurobiology of Pain Psychology of Pain.

#### Career opportunities

This programme has been designed to help you make progress in your career as a clinical pain manager, with up-to-date expertise and a world recognised qualification.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www. ed.ac.uk/international/country**), in medicine, dentistry, nursing, psychology, occupational therapy, physiotherapy or other allied disciplines involved in the management of pain, plus the relevant clinical experience.

#### English language requirements:

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £8,450 over two years.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Sarah Henderson E: anaes@ed.ac.uk

#### PRIMARY DENTAL CARE

www.ed.ac.uk/pg/789

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This part-time, online modular programme provides masters-level education for primary care clinicians, with a particular emphasis on restorative dentistry. The structure of the degree is designed to meet the needs of dental practitioners from all over the world.

#### Programme structure

Each module will run over a period of six or twelve weeks (depending on the credits) with participation in online discussions and completion of timed tasks being a compulsory part of the process. The programme is supported by a virtual learning environment (VLE) and all the educational material is available online. Coursework for assessment is uploaded to the site and there is an active student discussion board available alongside tutor-led discussions. All of the modules are assessed by a process of continuous assessment.

Maintenance of a portfolio of evidence is an essential component of assessment. Students are strongly encouraged to include a reflective element and to maintain a personal journal. There is a significant commitment of time required to complete this course and applicants should be aware that they will be required to take part in weekly tutorials and discussions. It is estimated that between 15-20 hours of clinical time and personal study will be required per week.

An annual summer school will be run in the Edinburgh Postgraduate Dental Institute to reinforce the clinical-skills coaching element of the teaching.

#### Year 1 and 2 modules include:

Introduction to Clinical Evidence; Diagnosis and Treatment Planning; Direct Restorations; Dental Clinic Management; Occlusal Management of the Restored Natural Dentition; Endodontics in Primary Dental Care; Periodontal Management in Primary Dental Care; Indirect Restorations; Restoration of the Edentulous Space.

#### Year 3: masters

You will complete a research dissertation and carry out clinical case reports.

#### **Career opportunities**

This masters degree does not allow entry to any specialist lists, but it will aid promotion in a primary dental care career pathway, particularly within a salaried service. General Dental Practitioners who wish to be involved with teaching or research will also find this an important qualification. The Royal College of Surgeons of England (FGDP UK) have accredited the degree towards their Fellowship career pathway.

#### Minimum entry requirements

A Bachelor of Dental Surgery degree, or equivalent primary dental qualification, along with a minimum of two years post-qualification experience in primary dental care.

#### English language requirements

See page 49

Tuition fees in 2012/13\*

UK, EU and international students: £8,185 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Oonagh Lawrie E: epdi@ed.ac.uk



### SURGICAL SCIENCES

#### www.ed.ac.uk/pg/404

MSc/Dip/Cert 3 yrs PT

#### Programme description

This programme gives you first-rate preparation for the Membership of the Royal College of Surgeons (MRCS) examination with emphasis on acquired knowledge and its application. The third-year MSc research project also serves as an opportunity to develop an academic career in surgery.

#### Programme structure

The Edinburgh Surgical Sciences Qualification (ESSQ) allows you to take the Certificate in Surgical Sciences, the Diploma or the Masters. It's also aligned to the UK Intercollegiate Surgical Curriculum Programme, and it will prepare you for the Membership of the Royal College of Surgeons (MRCS) examinations.

#### Year 1: certificate

Introduction to the ESSQ Cardiovascular and Respiratory Neoplasia, Immunology, Microbiology and Haematology Gastrointestinal 1 Gastrointestinal 2 and Transplant Colorectal Urology Locomotor and Plastics Endocrinology, Breast and Skin ENT/OMFS.

#### Year 2: diploma

Preoperative Assessment Principles of Postoperative and Critical Care Principles of Surgical Management Surgical and Communication Skills Academic Activity.

#### Year 3: masters

The final year involves a masters research project in which you will plan, execute and develop a research paper, potentially involving clinical or laboratory research.

#### **Career opportunities**

This programme is designed to let you study towards your MRCS in a flexible way.

#### Minimum entry requirements

An undergraduate degree, or its international equivalent (see **www.ed.ac.uk/ international/country**), in medicine. Your degree must normally be obtained within five years of starting this programme. You must also demonstrate that you will be in a supervised clinical environment while you are studying.

#### English language requirements:

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £2,530 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

James Garden E: essqinfo@rcsed.ac.uk

#### TRANSLATIONAL MEDICINE

#### www.ed.ac.uk/pg/405

MSc/Dip/Cert 3 yrs, 2 yrs or 1 yr PT

#### Programme description

This programme provides advanced training for working professionals in medicine and science, and in related industrial, policy and healthcare fields, in the rapidly evolving field of Translational Medicine. It maps to all sectors engaged in medical and biomedical research and development, spanning clinical medicine to drug discovery. Translational medicine coordinates the talents, skills and expertise needed to bring new medicines and treatments into practice. This involves the integration and coordination of medical, scientific, socio-economic, regulatory and ethical issues to advance our understanding of the diagnosis, prevention and treatment of disease. The programme is unique in introducing the full array of relevant, cutting-edge research topics and by providing the necessary integrative skills.

#### Programme structure

The first-year certificate phase provides a broad based introduction to translational medicine, pulling in themes from the interacting scientific, medical and policy/regulatory sectors. The diploma phase is more practically focused on developing students as translational medicine practitioners with the aim of taking a research idea, innovation or therapeutic through the various research and development phases to clinical or commercial application. The dissertation phase is spent working on an individual research project. For the certificate and diploma phases emphasis is placed on interactive working as well as more established assessment methods. This encourages peer-to-peer learning and interaction with colleagues from diverse backgrounds and is essential to Translational Medicine as an interdisciplinary activity.

#### Year 1 certificate phase topics:

Translational Medicine: Introduction and Definition Mechanisms and Models of Disease Targeting and Measuring Disease Challenges of Drug Development: Past and Future Translational Strategies, Policy and Regulation, and Stakeholder Engagement Interdisciplinary Integrative Research Skills

#### Year 2 diploma phase topics:

Proof of Concept in Translational Medicine Evaluation and Application of Translational Medicine Policy, Regulation and the Law Resourcing Translational Medicine You can enhance your own areas of interest by selecting either one or two

optional courses from medical, scientific and policy focused areas.

#### Year 3 masters phase:

Production of a research project and report in a field of interest related to Translational Medicine that relates to your work or career interests and objectives.

#### Career opportunities

The programme provides significant career enhancement opportunities for those in working in scientific, medical or regulatory sectors in academia or industry related to Translational Medicine.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in a relevant subject. Candidates with clinical, industrial and other relevant experience will also be considered.

#### **English language requirements** See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £3,585 per year.

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Douglas Roy E: douglas.roy@ed.ac.uk

### TRAUMA AND ORTHOPAEDICS

www.ed.ac.uk/pg/791

ChM 2 yrs PT

#### Programme description

This two-year, part-time masters programme, taught entirely online, is offered by the Royal College of Surgeons of Edinburgh and the University of Edinburgh, and leads to the degree of Master of Surgery (ChM). Based on the UK Intercollegiate Surgical Curriculum, the ChM in Trauma and Orthopaedics provides the opportunity for trainees in this area to select those advanced modules relevant to their declared specialty and supports learning for the Fellowship of the Royal College of Surgeons (FRCS) examinations. The programme is designed to run alongside clinical training and complement in-the-workplace assessment.

#### Programme structure

The programme runs on a semester basis, over two years, and involves approximately 10 hours of study each week, in a flexible modular manner. It is anticipated that some of this study would receive credit or mirror 'in-theworkplace' activities. The online distance learning nature of this programme is perfect for doctors working unsociable shift patterns. You will have access to high quality, interactive online resources, e-journals and online textbooks, as well as dedicated technological support.

#### Year 1

Students have the opportunity to undertake academic modules to explore research and teaching methodology, as well as developing their ability to analyse published evidence and explore interactive and written clinical communication skills. Students are required to complete an academic critique in an appropriate subspecialty area of work, undertaken during the two-year period of study, such as that resulting from a publication in a peer reviewed journal.

#### Year 2

Compulsory modules cover the core elements of the subsections of the orthopaedic syllabus. These are taught and assessed using a clinical problembased approach, supported by systems-based review of the course material. Having gained experience from the academic modules in the previous year, students will be expected to critically analyse reference material and where appropriate relate to their own work.

#### **Career opportunities**

Graduates will be able to demonstrate in-depth knowledge of their chosen surgical subspecialty, and be able to apply this knowledge to the systematic assessment and management of surgical patients in the elective, urgent and emergency clinical setting.

#### Minimum entry requirements

Prospective entrants must hold a basic medical qualification recognised by the General Medical Council, and would normally have acquired their MRCS (or equivalent assessment milestone) and be an Advanced Trainee in Trauma and Orthopaedics (ST [specialist training years] 5/6 in UK or equivalent outside UK).

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

UK, EU and international students: £4,225 per year.

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### **Programme Director**

James Garden E: chminfo@rcsed.ac.uk

### UROLOGY

#### www.ed.ac.uk/pg/792

ChM 2 yrs PT

#### Programme description

This two-year part-time masters programme, taught entirely online, is offered by the Royal College of Surgeons of Edinburgh and the University of Edinburgh, and leads to the degree of Master of Surgery (ChM). Based on the UK Intercollegiate Surgical Curriculum, it provides the opportunity for trainees in urology to select those advanced modules relevant to their declared specialty and supports learning for the Fellowship of the Royal College of Surgeons (FRCS) examinations. The programme is designed to run alongside clinical training and complement in-the-workplace assessment.

#### Programme structure

The programme runs on a semester basis over two years and involves approximately 10 hours of study each week, in a flexible modular manner. It is anticipated that some of this study would receive credit or mirror 'in-theworkplace' activities. The online distance learning nature of this programme is perfect for doctors working unsociable shift patterns. You will have access to high-quality, interactive online resources, e-journals and online textbooks, as well as dedicated technological support.

#### Year 1

Compulsory modules will cover the basic elements of the specialty of urology, including oncology, andrology, stone disease, reconstructive urology, paediatric urology and renal transplantation. Each module is based around relevant surgical cases, and includes discussion boards and video master classes.

#### Year 2

Academic modules will explore research and teaching methodology, as well as develop skills to ensure an ability to analyse published evidence and explore interactive and written clinical communication skills. Trainees will be required to complete an academic critique/dissertation in an appropriate subspecialty area of work undertaken during the two year period of study.

#### Career opportunities

Graduates will be able to demonstrate in-depth knowledge of their chosen surgical subspecialty, and be able to apply this knowledge to the systematic assessment and management of surgical patients in the elective, urgent and emergency clinical setting.

#### Minimum entry requirements

Prospective entrants must hold a basic medical qualification recognised by the General Medical Council, and would normally have acquired their MRCS (or equivalent assessment milestone) and be an Advanced Trainee in Urology.

#### **English language requirements** See page 49

### Tuition fees in 2012/13\*

UK, EU and international students: £4,225 per year.

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Programme Director

James Garden E: chminfo@rcsed.ac.uk

# Postgraduate professional development

Postgraduate professional development is a new way of learning from the College of Medicine and Veterinary Medicine, aimed at working professionals who want to advance their knowledge through a postgraduate-level course, without the time or financial commitment of a full masters, diploma or certificate.

We are now offering short, focused, creditbearing courses which provide very specific training on particular subjects and lead to a University of Edinburgh postgraduate award. The courses are offered through an interactive online distance learning medium enabling participants to study in their own time. You may take a maximum of 50 credits worth of courses through our postgraduate professional development scheme. These credits will be recognised in their own right at postgraduatelevel, or may be put towards gaining a higher award, such as a postgraduate certificate, postgraduate diploma or MSc. Please visit the website for full details: www.ed.ac.uk/medicine-vet-medicine/ professional-development.



# On-campus masters and masters by research programmes

Our on-campus masters programmes are designed to develop knowledge or techniques in specialised subjects previously studied more generally at undergraduate level. Taught masters programmes take 12 months to complete. They are taught through lectures, tutorials and seminars, as well as practical and lab work, and conclude with a dissertation element. A masters by research degree is also a 12-month programme, but is much more explicitly focussed on developing research skills, making it an excellent stepping-stone to a PhD.

### **ANIMAL BIOSCIENCES**

www.ed.ac.uk/pg/674

MSc 1 yr FT

#### Programme description

This programme will give you expert scientific knowledge and practical skills in animal sciences, veterinary and human medicine, the livestock industry and food security. You will graduate with a wide range of techniques and skills in animal biosciences that can lead to careers in research, industry, government and international bodies.

This programme will be held in our newly housed and refurbished, world-famous Roslin Institute. You will become part of this Institute, enjoying our world-class reputation for research and a vibrant, successful academic community.

#### Programme structure

The programme involves courses that are a blend of lectures, guided practical studies and independent research. You will also complete your own dissertation.

#### Courses include:

Basic Techniques in Animal Biosciences Advanced Techniques in Animal Biosciences Current Topics in Animal Biosciences Analytical Methods in Animal Biosciences Seminars in Animal Biosciences.

#### Dissertation

You will prepare a research proposal based on your laboratory (or bioinformatic) research project and will carry out this project under the supervision of a member of the Roslin Institute staff.

#### **Career opportunities**

This programme gives you a uniquely attractive theoretical knowledge and practical skills that give you a number of potential career development options in academia or industry. We envisage that at least 50 per cent of our graduates will find a PhD placement after this MSc. Our programme has been tailored to fulfil industry demand in vivo skills and a wide range of our industrial partners have told us that graduates from this programme will be attractive employees.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www**. **ed.ac.uk/international/country**), in biological, veterinary or medical sciences. You are also required to have a working knowledge of molecular biology and laboratory experience.

**English language requirements** See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### **Programme Director**

Kim Summers E: kim.summers@roslin.ed.ac.uk

### APPLIED ANIMAL BEHAVIOUR AND ANIMAL WELFARE

#### www.ed.ac.uk/pg/238

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

#### Programme description

This programme has popular international appeal and is endorsed by many international organisations for its up-to-date understanding and application of the latest animal welfare methods and practices. It provides students with an understanding of animal welfare that can be applied in animal research, management, care, production, inspection, assessment and preparation of legislation.

In addition to the core teaching team, more than 50 guest lecturers travel to Edinburgh each year to teach on the programme, allowing you to benefit from the experience and knowledge of professionals working throughout the animal behaviour and welfare community, including the RSPC, the SSPC, Advocates for Animals, the British Veterinary Association, the Animal Welfare Foundation and the Department for Environment, Food & Rural Affairs.

#### Programme structure

The programme involves taught courses and your own dissertation. Throughout the 15 weeks of teaching you will take part in many visits to farms and animal shelters and will study the following courses:

Introduction to Applied Animal Behaviour and Animal Welfare Biology of Suffering Animal Cognition and Consciousness Scientific Methodology Farm and Laboratory Animal Welfare Companion, Zoo and Wild Animal Welfare. From March/April until August, you will work on a research project of your own choice.

#### **Career opportunities**

Graduates move on to a variety of jobs such as research technician, scientific advisors and lecturers. Many will also pursue their study and enrol in a PhD.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in animal science, biology, psychology, zoology or veterinary science.

English language requirements:

See page 49 Tuition fees in 2012/13\*

# 1 yr FT: UK/EU £5,750; international £13,050

\*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### **Programme Director**

Susan Jarvis E: susan.jarvis@sac.ac.uk

### **BIOMEDICAL SCIENCES**

#### www.ed.ac.uk/pg/244

MSc by Research 1 yr FT

#### Programme description

This one-year, full time programme provides an excellent grounding for PhD study in the biomedical sciences. You will learn valuable research skills, biomedical laboratory techniques and other transferable skills that will give you an advantage for the rest of your career. You can also choose two subjects, one each semester, that best suit your interests and career goals.

The programme includes seminars, taught modules and short, mini projects in our world-recognised research laboratories. You will also carry out a longer project, which includes preparing a research proposal, as well as carrying out the research itself.

#### Programme structure

Along with research skills courses, you choose one research theme for each semester.

#### Semester one

Cancer Biology Cardiovascular Biology Cell Communication Genomics and Pathway Biology 1 Human Genetics and Model Systems 1 Reproductive Mechanisms Ageing Research.

#### Semester two

Biomedical Imaging Genetics and Disease Genomics and Pathway Biology 2 Human Genetics and Model Systems 2 Inflammation and Inflammatory Disease Medicinal Chemistry Reproductive Systems.

#### Research proposal

You submit your research proposal in late April. You should normally choose a subject that is associated with one of your research themes. The proposal takes the form of a grant application. You carry out your actual research from May and then write it up as a research dissertation, which you submit in August.

#### **Career opportunities**

This programme is an excellent stepping-stone to a PhD, or a career in biomedical research or industry.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in the biological, chemical or physical sciences.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000. \*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### **Programme Director**

Margarete Heck E: margarete.heck@ed.ac.uk

### CARDIOVASCULAR BIOLOGY

#### www.ed.ac.uk/pg/205

MSc by Research 1 yr FT

#### Programme description

The aim of this programme is to give you a broad-based training in biomedical research, with a focus on cardiovascular science. This includes an introduction to cardiovascular development, the development of cardiovascular disease, organ function and dysfunction, and the cardiovascular system in reproduction and inflammation. You will gain an integrated view of the physiology and pathology of cardiovascular system from both basic and clinical scientists.

#### Programme structure

You will attend research seminars and tutorials by senior clinicians and basic scientists, and conduct research projects in our internationally renowned laboratories in the Centre for Cardiovascular Science. You will also deliver research-orientated presentations and gain skills in critical reading of scientific literature and in the writing of scientific reports.

#### **Career opportunities**

This is the ideal programme for high-calibre students who wish to progress to a PhD in cardiovascular science.

#### Minimium entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in a relevant biological discipline, or a medical/ veterinary qualification.

# English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000.

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### **Programme Director**

Matthew Bailey E: matthew.bailey@ed.ac.uk

## **GENERAL PRACTICE**

www.ed.ac.uk/pg/694

MSc 1 yr FT

#### Programme description

This programme aims to provide high quality postgraduate medical education in general practice to an international audience from countries whose health systems are beginning to identify general practice as a unique speciality.

We have designed the programme to give you essential general practice knowledge. This includes an in-depth understanding of the lifestyle of health and illness, skills such as leadership and management and an understanding of continuity of care for the individual, family and the community. You will also gain the necessary knowledge of the broad range of tasks that face general practitioners, such as, health promotion, disease prevention, health education, and information and data management.

#### Programme structure

The MSc combines seminar teaching on specific topics with individual research supervision, tutorials, site visits and observations of practice. You will be taught through direct class teaching, peer mentorship, witnessing actual practice processes, on-site learning in General Practice field scenarios and integrated e-learning programmes, which are supported by senior staff and general practitioners.

The programme is theory based, and is designed to provide candidates with essential General Practice knowledge, as identified by the World Association of Family Medicine.

#### Career opportunities

This programme will allow you to go on to play a prominent role in general practice either as a practitioner or as a Primary Health Care Policy and Programme National Manager.

#### Minimum entry requirements

An undergraduate medical degree (MBCHB), or its international equivalent (see **www.ed.ac.uk/international/country**) plus a foundation year of clinical training to fulfil medical registration in your home country, or country of practice.

# English language requirements

See page 49

Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

# Programme Director

David Weller E: jan.bunyan@ed.ac.uk

# GENOMICS AND PATHWAY BIOLOGY

#### www.ed.ac.uk/pg/194

MSc by Research 1 yr FT

#### Programme description

This programme provides in-depth training in the use of tools and technologies for modern post-genomic biomedical research by engaging in research projects with leading biomedical research groups. Functional genomic approaches are becoming extremely important for unravelling how biological systems function at the molecular and cellular level. Application of these technologies and associated methods of bioinformatics analysis are producing a much more sophisticated definition of biological pathways and networks.

Key features of the programme include:

- Hands-on research using genomic and proteomic technologies;
- Applying functional genomic technologies in biomedical research;
- Biological pathway mapping and systems biology;
- Biochip and biosensor applications in biomedical research;
- Data handling and analysis;
- Exploring pathway biology in biomedical, clinical and pharmaceutical studies;
- Interdisciplinary biomedical research;
- Experience of project planning, report writing and team-working;
- Excellent preparation for PhD research and biomedical research careers.

#### Programme structure

This research masters allows you to participate in cutting-edge research using functional genomic technologies. Assessment is based on the production of research reports and a research plan. This allows you to participate in different research areas during the year if you wish. To complement your laboratory research an extensive series of lectures, research seminars and laboratory demonstrations are provided by leading experts in the field.

Topics covered include:

- Functional genomic technologies in biomedical research;
- Biological databases and data integration;
- Biological pathway mapping and systems biology;
- Biochip applications in biomedical research and personalised medicine;
- Examples of pathway biology in biomedical, pharmaceutical and clinical studies.

#### Career opportunities

This MSc provides the key skills and advanced knowledge base for further PhD research or careers in academia and industry. Graduates gain excellent research and analytical skills applicable to a wide range of disciplines across the biomedical, clinical and biopharmaceutical research spectrum.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent, in a relevant subject.

**English language requirement** See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000.

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### Programme Director

Douglas Roy E: douglas.roy@ed.ac.uk

### HUMAN ANATOMY

#### www.ed.ac.uk/pg/648

MSc/Dip 1 yr FT

#### Programme description

This programme has two main strands. One is the in-depth study of the anatomy of the human body. This will involve the dissection of a human body over two semesters. The other is to develop different methods for the teaching of human anatomy.

Complementing these strands will be a lecture-based, embryology course providing you with an understanding of normal, human development and how normal development can go wrong, manifested in commonly observed congenital abnormalities. You will also study health and safety, and legal aspects of handling the body, as well as an introduction to the ethics of using bodies in medical education.

The teaching component of the programme will introduce students to the various methods used in teaching anatomy, and their effectiveness. This will involve preparing and carrying out a teaching session to both small and large groups of students.

#### Programme structure

Teaching is by lectures, seminars and tutorials. The dissection component of the course will be largely self-directed but with regular lectures to complement the practical work.

There will be an opportunity to put into practice what is being learned in the teaching module by teaching students on the medical degree course. There will also be guest lectures by experts in their specific field to complement the lecture course.

You have the option to finish after the second semester and graduate with a Diploma in Human Anatomy. Alternatively, to gain your masters, you need to complete a project that can be either library-based or practical or laboratory based.

#### **Career opportunities**

This programme has been designed to help you understand and teach anatomy.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in biological, veterinary or medical sciences.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### **Programme Director**

Gordon Findlater E: anatomy.edinburgh@ed.ac.uk

### INTEGRATIVE NEUROSCIENCE

www.ed.ac.uk/pg/196

MSc by Research 1 yr FT

#### Programme description

The MSc by Research in Integrative Neuroscience is a one-year, full-time research programme covering all levels of modern neuroscience, which makes it an ideal programme to prepare you for a PhD. We include molecular, cellular, systems, regenerative, cognitive, clinical and computational neuroscience. We also allow you to choose your speciality right from the start, allowing you to shape your learning around your interests and career goals.

#### Programme structure

You start with a taught component in the first 12 weeks, and attend 'themed weeks' from which you choose your optional courses. The optional courses include:

Neuromuscular Junction and Motor Neuron Disease Neuroinformatics Neural Control Systems Model Systems in Neurodevelopment Hippocampal Synaptic Physiology and Memory Disconnected Mind – the Ageing Brain Electrophysiology Workshop Membrane and Membrane Protein Biology Neurodegeneration and Regeneration: Disease Modelling and Cell Repair

The optional courses run during the first 12 weeks on two half days per week. These will give you a deeper insight into the concepts and methodology of a specific field of interest. You can choose available projects or contact principal investigators from more than 120 groups in the Edinburgh Neuroscience community to arrange your research, which can range from psychology to nanoscience. You can decide to do two consecutive projects to gain a strong overview of research areas, or do a longer project to get a more in-depth laboratory experience in one field.

#### **Career opportunities**

This programme is designed to help you in your research career.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in biological sciences (including neuroscience) or a medical, dental or veterinary degree.

English language requirements

#### See page 49

Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £2,000. \*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### www.ed.ac.uk/student-fundi

Programme Director

Thomas Becker E: thomas.becker@ed.ac.uk

### **MEDICAL SCIENCES**

www.ed.ac.uk/pg/245

MMedSci 1 yr FT (2 yrs PT available for UK/EU students)

#### Programme description

The Masters in Medical Sciences programme is the only one of its kind in the UK and is proven to give graduates the competitive edge in the job market. It's designed for high-calibre medicine graduates who want to explore and benefit from medical research, perhaps with a view to pursuing a PhD or a career in research.

We offer you the opportunity to undertake a research project in a laboratory or department relevant to your speciality. The choice of research projects carried out is wide and ranges from bench research to clinical research. You will need to secure a supervisor and project before starting the degree.

#### Programme structure

The programme begins with a month of teaching, providing you with an overview of the whole range of techniques used in medical research. In the first two weeks you will attend lectures on subjects ranging from stem cell biology to ethics and clinical trials. You will also receive statistics training and practical workshops in cell biology and molecular medicine. While you are learning these subjects you will be taught practical techniques, including basic tissue culture, how to do PCRs and run Western Blots.

Around 20 per cent of the course will consist of taught classes and seminars. The rest is spent in your host department. To consider your research interests and opportunities we advise you to visit Edinburgh's Clinical Academic Training centre (ECAT) **www.ecat.ed.ac.uk** or speak to the Programme Director.

#### **Career opportunities**

Around a quarter of our students continue on to a PhD. Those who choose to return to clinical practice go back with a broader experience of research than is afforded by the undergraduate clinical medicine curriculum.

#### Minimum entry requirements

An undergraduate degree, or its international equivalent (see **www.ed.ac.uk**/ **international/country**), in medicine.

### English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000. \*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

**Programme Director** 

Richard Weller E: richard.weller@ed.ac.uk

#### Chloe Gelder

#### MSc Human Anatomy 2011



"I started studying the MSc in human anatomy because I'd always wanted to do medicine, but had applied and didn't get in. I have now got a place to study medicine but, as I enjoyed my masters so much, I intend to go into some kind of medical education, as well as being a practising doctor, when I graduate. I don't regret not getting into medical school the first time round – the Human Anatomy programme was fantastic and I loved every minute of it."

#### **ONE HEALTH**

www.ed.ac.uk/pg/693 MSc 1 yr FT

#### Programme description

This programme has been designed to fulfil the growing demand for scientists with both animal and human clinical science skills to work in government agencies and the agricultural and food industries, to provide valid scientific advice and guide policy development and implementation.

Not only will this programme help you develop your own valuable research skills, you will also learn the latest theories and methods in analysing data. For instance, learning human and animal disease models and seeing how emerging animal disease can affect humans and/or food security. Plus, you will learn the latest and most important procedures that help with biomedical research and disease control.

#### Programme structure

You will choose taught courses from a broad range of options and complete a dissertation.

#### Taught courses include:

General Concepts of One Health: Comparative Medicine and Animal Models Zoonoses and Emerging Diseases

Epidemiological and Statistical Tools for Disease Control

Laboratory Tools for Disease Control: Molecular Biology and Immuno-chemistry

The second semester is devoted to your dissertation where you will learn to use vital research skills, modern laboratories and write a paper on your research findings.

#### **Career opportunities**

This programme has been designed to help you find employment in industry, research, government or welfare organisations. Recent graduates have found positions in pharmaceutical companies, research institutions, the Department for Environment, Food and Rural Affairs (DEFRA), the World Organisation for Animal Health (OIE), the Royal Society for the Prevention of Cruelty to Animals (RSPCA), the World Society for the Protection of Animals (WSPA) and Oxfam.

#### Minimum entry requirements

A veterinary or medical degree (BVM&S or MBChB) or their international equivalents (see **www.ed.ac.uk/international/country**). Intercalating veterinary and medical students may also be eligible to apply.

**English language requirements** See page 49

Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Chris Low E: onehealth@ed.ac.uk

### **ORAL SURGERY**

#### www.ed.ac.uk/pg/441

MClinDent 2 yrs FT

#### Programme description

This programme is for dental surgery graduates who wish to extend their knowledge, clinical practice experience and expertise in oral surgery. The programme will give you theoretical and practical understanding of oral surgery and how it relates to other dental specialities.

#### Programme structure

The syllabus includes components of the core competencies for oral surgery training for the General Dental Council and Royal College of Surgeons of England guidelines:

- extraction of teeth & retained roots/pathology;
- management of associated complications including oro-antral fistula;
- management of odontogenic and all other oral infections;
- management of impacted teeth;
- management of complications;
- peri-radicular surgery;
- dentoalveolar surgery in relation to orthodontic treatment:
- intraoral and labial biopsy techniques;
- treatment of intra-oral benign and cystic lesions of hard and soft tissues;
- management of benign salivary gland disease by intra-oral techniques and familiarity with the diagnosis and treatment of other salivary gland diseases;
- insertion of osseointegrated dental implants including bone augmentation and soft tissue management;
- appropriate pain and anxiety control including the administration of standard conscious sedation techniques;
- management of adults and children as in-patients, including the medically at risk patient;
- management of dento-alveolar trauma and familiarity with the management and treatment of fractures of the jaws and facial skeleton;
- management of oro-facial pain including temporomandibular joint disorders;
- clinical diagnosis of oral cancer and potentially malignant diseases, familiarity with their management and appropriate referral;
- the diagnosis of dentofacial deformity and familiarity with its management and treatment;
- diagnosis of oral mucosal diseases and familiarity with their management and appropriate referral;
- control of cross-infection;
- medico-legal aspects of oral surgery.

#### **Career opportunities**

This programme has been designed for dental surgery graduates who wish to specialise in oral surgery.

#### Minimum entry requirements

A Bachelor of Dental Surgery degree, or the equivalent primary dental qualification, plus a minimum of two years' postgraduate experience.

#### **English language requirements** See page 49

see page 49

Tuition fees in 2012/13\*

2 yrs FT: UK/EU £11,900; international £30,850

\*Fees change annually. For the most up-to-date information about fees see

### www.ed.ac.uk/student-funding.

Programme Director

Victor Lopes E: epdi@ed.ac.uk

## ORTHODONTICS

#### www.ed.ac.uk/pg/227

MClinDent 2 yrs FT

#### Programme description

The Specialist Advisory Committee in Orthodontics has approved this degree as part of the training programme in orthodontics. It provides you with a deeper understanding of, and further technical and diagnostic skills in, orthodontics. It involves a large clinical component as well as your own research project.

You will learn to diagnose anomalies of the dentition, detect development deviations, formulate a treatment plan and predict its course, evaluate the need for orthodontic treatment and carry out treatment using fixed, functional and removable appliances.

You will learn how to treat adults, orthognathic, surgical cases and cleft-palate patients. Plus the programme will teach you the psychological aspects of treatment, while developing your scientific approach.

#### Programme structure

The programme begins with an introduction of core topics, then an introduction to our laboratory facilities and the basics of wire-bending skills, appliance design and appliance construction and mechanics. Clinical patient care is also established early within the first term.

This is followed by five structured terms of theoretical seminars and tutorials, with diagnostic tests on your knowledge carried regularly. There are written examinations at the end of each term. You must pass the written examinations at the end of the first year before proceeding to the second year. Your final MClinDent examination will consist of written examinations, diagnostic tests, case presentations, and the presentation of your research dissertation.

#### **Career opportunities**

This programme has been designed for orthodontist specialists.

#### Minimum entry requirements

A Bachelor of Dental Surgery degree, or an equivalent primary dental qualification, plus a minimum of two years' postgraduate experience.

#### **English language requirements** See page 49

#### Tuition fees in 2012/13\*

2 yrs FT: UK/EU £10,750; international £30,850

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### Programme Director

Niall McGuinness E: epdi@ed.ac.uk

# PAEDIATRIC DENTISTRY

#### www.ed.ac.uk/pg/228

MClinDent 2 yrs FT (3 yrs PT available for UK/EU students)

#### Programme description

This degree is approved as part of the training programme in paediatric dentistry by the Specialist Advisory Committee in Paediatric Dentistry, for those in possession of a training number awarded by the Postgraduate Dental Dean for Scotland.

This programme will develop your knowledge and skills in all areas of paediatric dentistry, including diagnosis, treatment planning, clinical skills and all aspects of patient management. You will also complete a supervised piece of research and learn research methodology, data analysis and the ability report results appropriately.

#### Programme structure

We start with an introductory programme of lectures, seminars and rehearsal for procedures in the clinical skills laboratory. This is followed by five structured terms, which will cover the clinical care of patients, seminars, journal clubs and trauma discussion groups, plus your supervised research dissertation. There are examinations at the end of each term and regular essay and critical appraisal exercises.

Your syllabus will include:

- behavioural science and behaviour management including local anaesthesia, sedation and general anaesthesia;
- pathogenesis, epidemiology and prevention of oro-dental diseases;
- restorative treatment of dental caries and pulpal therapy;
- developmental disorders of the teeth, mouth and jaws;
- advanced restorative dentistry for children and young adults;
- diagnosis, management and treatment for children and young adults;
- comprehensive diagnosis and treatment planning
- management of medically, physically and educationally comprised patients, including manifestations of systemic disorders;
- principles and practice of dento-alveolar surgery for children and adolescents;
- Audit, research and introduction to statistic.

#### **Career opportunities**

This programme has been designed for those practitioners ready to specialise in paediatric dentistry.

#### Minimum entry requirements

A Bachelor of Dental Surgery degree, or the equivalent primary dental qualification, plus a minimum of two years' postgraduate experience.

#### English language requirements

See page 49

Tuition fees in 2012/13\*

2 yrs FT: UK/EU £11,900; international £30,850

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### Programme Director (Acting)

Vidya Srinivason E: epdi@ed.ac.uk

## PROSTHODONTICS

#### www.ed.ac.uk/pg/229

MClinDent 2 yrs FT

#### Programme description

The MClinDent degree is recognised by the Royal College of Surgeons of Edinburgh as being two of the three years of specialist training you require if you wish to sit the Membership in Prosthodontics (the UK specialist qualification in the discipline). The Specialist Advisory Committee in Restorative Dentistry also approves this programme as part of the training programme in Prosthodontics, if you have a training number awarded by the Postgraduate Dental Dean for Scotland.

The programme has three major teaching strands. These include seminars and practical classes, supervised clinical and laboratory practice where treatment planning, clinical procedures and technical work are performed for selected cases, and finally you carry out a research investigation, which will lead to your dissertation.

#### Programme structure

The programme addresses five components;

- the scientific basis of prosthodontic care;
- the relationship of other dental disciplines to prosthodontic care;
- diagnosis and treatment planning for patients with advanced prosthodontic problems;
- the clinical treatment of patients with advanced prosthodontic problems;
- clinical treatment involving combined prosthodontic and other dental therapy.

#### Career opportunities

This programme has been designed to help you specialise in prosthodontics.

#### Minimum entry requirements

A Bachelor of Dental Surgery degree, or the equivalent primary dental qualification, plus a minimum of two years' postgraduate experience.

**English language requirements** See page 49

#### Tuition fees in 2012/13\*

2 yrs FT: UK/EU £11,900; international £30,850

\*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

Programme Director

Graeme Lillywhite E: epdi@ed.ac.uk

#### **PUBLIC HEALTH**

#### www.ed.ac.uk/pg/203

MPH 1 yr FT (2 yrs PT available for UK/EU students)

#### Programme description

Public Health is about preventing disease, prolonging life and promoting health through the efforts of society. This is the ideal programme if you are a professional or new to the subject and you wish to address today's problems in public health. You will gain an understanding of how different scientific disciplines can be used to enquire and then develop the best professional practice in epidemiology, public health and social science, ethics and health.

#### Programme structure

The year is divided into two semesters of taught courses, followed by completion of a dissertation between May and August. Teaching is by lectures, seminars and workshops. Course assessments are mainly essay-based, with a few examinations and presentations. Your dissertation can involve either a review of existing research or analysis of data from a secondary source or data collected especially for your dissertation.

#### Compulsory courses

Introduction to Epidemiology Introduction to Qualitative Research Introduction to Research Ethics Introduction to Statistics and Critical Appraisal Introduction to Systematic Reviews.

#### **Optional courses**

Advanced Protocol Development Clinical Trials Communicable Disease Control and Environmental Health Epidemiology for Public Health Extended Epidemiology Further Statistics Genetic Epidemiology Global Burden of Mental Illness Health Promotion Introduction to Global Health Palliative & End of Life Care in Local & Global Contexts Public Health Fthics Public Health Research: International Issues Oualitative Research in Health Resource Allocation and Health Economics Sociology of Health and Illness Statistical Modelling.

#### **Career opportunities**

The programme will prepare you for a career in research or academia, professional public-health service, clinical epidemiology, health technology assessment, public-health protection and a wide range of national and international organisations concerned with preventing disease and improving the health of populations.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**). We consider both academic and work experience of applicants.

**English language requirements** See page 49

Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £13,050

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Niall Anderson E: cphs.pg@ed.ac.uk

# REGENERATIVE MEDICINE: CLINICAL AND INDUSTRIAL DELIVERY

www.ed.ac.uk/pg/797

MSc 1 yr FT

#### Programme description

The pharmaceutical and life sciences industries are investing in stem cells, either in direct applications where the stem cells themselves would be used for therapy or indirectly, where stem cell derived tissues will be used for drug screening and toxicity testing. With the increasing involvement of the major pharmaceutical companies in this area, as well as many smaller companies, it is clear that there will be a growing demand for a highly skilled workforce. This programme is intended to meet current and future needs of the pharmaceutical industry and health care providers by providing a cadre of well-trained scientists capable of fulfilling managerial, administrative, research and technical roles within the developing commercial regenerative medicine sector.

#### Programme structure

The programme contains both taught and independent project components and will cover key theoretical and practical aspects of the growth and maintenance of pluripotent stem cell lines, the directed differentiation of these cells into defined tissue phenotypes, and the maintenance of the differentiated state under conditions suitable for drug testing/screening programs. Essential elements of good practice will also be included, such as quality assurance and the regulatory framework that surrounds the derivation, storage and use of human cells. The teaching will be multidisciplinary and will integrate contributions from the fields of medicine, biology, chemistry and bioinformatics.

#### Compulsory courses

Fundamental Biology of Stem Cells Basic Techniques in Regenerative Medicine Stem Cells and Regenerative Medicine Production of Differentiated Cells Regenerative Medicine and the Clinic or Regenerative Medicine and Industry.

There will be an industrial placement of three months, situated within a life sciences company specialising in aspects of regenerative medicine. Financial assistance may be available to cover travel expenses to the location of the industrial placement.

#### **Career opportunities**

Graduates will be equipped for a variety of roles within the developing commercial regenerative medicine sector.

#### Minimum entry requirements

A UK 2:1 honours degree, or its international equivalent (see **www.ed.ac**. **uk/international/country**), in a relevant biological discipline (or a medical/ veterinary qualification).

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### Programme Director

Paul Travers E: paul.travers@ed.ac.uk

# **REPRODUCTIVE SCIENCES**

www.ed.ac.uk/pg/204

MSc by Research 1 yr FT

#### Programme description

This programme provides a core grounding in basic and medical aspects of the reproductive sciences. Based in the renowned Queen's Medical Research Institute, where basic science meets clinical patient care, together with the links with the Biosciences and Veterinary Schools, you can learn the most up-todate molecular and cellular research in reproductive science, in a stimulating, challenging and vibrant, research-led atmosphere where students and trainees are regarded as the 'lifeblood' for the future. The programme is taught through lectures, delivered by internationally recognised experts in the field, seminars and student-led small-group tutorials, alongside laboratory-based research projects.

The major elements of the programme allow you to gain:

- practical hands-on laboratory experience and training in a wide range of up-to-date techniques in molecular and cellular biology used in reproductive sciences research:
- an ability to analyse, critically appraise and present your own research findings in the context of the literature in the field of reproductive sciences, and apply those skills more widely in biosciences;
- a breadth and depth of knowledge across the field of reproductive sciences.

#### Programme structure

The programme consists of a two-week introductory intensive laboratory orientation and skills course, followed by two, 20-week laboratory-based projects. These are usually on two different research themes based in different laboratories within the Centre for Reproductive Health. You will submit a research proposal in the form of a grant application, as an introduction to the second laboratory project. In the first five months you will receive lectures and seminars across the reproductive sciences field, delivered by internationally recognised experts in the field. You will participate in a wide range of student-led tutorials, skills workshops and short courses. The laboratory project reports and presentations are the main elements of assessment, together with the research proposal.

#### **Career opportunities**

This programme is the ideal route for those wishing to embark on a PhD, or in a technical laboratory role, in the field of Reproductive Health, spanning the biosciences, clinical and veterinary fields. The broad range of skills gained is also readily transferable into careers at the clinical-laboratory interface and in the broader biosciences industry opportunities. This programme does not amount to specific training to become a clinical embryologist.

#### Minimum entry requirements

A UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac. uk/international/country**), in a relevant biological, medicine or veterinary medicine discipline.

# English language requirements

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000. \*Fees change annually. For the most up-to-date information about fees see

#### www.ed.ac.uk/student-funding.

#### Programme Director

Simon Riley E: Simon.C.Riley@ed.ac.uk

# SCIENCE COMMUNICATION AND PUBLIC ENGAGEMENT

www.ed.ac.uk/pg/790

MSc 1 yr FT

#### Programme description

The field of science communication and public engagement with science is currently enjoying unprecedented growth. This is driven by a greater need to demonstrate the impact of publicly funded research, the need for research to be valued, increased government scrutiny and a desire for a stronger evidence base for policy. Many career opportunities are emerging at the interface between scientific research and various public groups.

#### Programme structure

This MSc is a twelve-month programme, divided into three semesters. The final semester consists of a choice of research-or practice-based project. Teaching methods will contain a blend of lectures, individual and small-group activities, and practice-based sessions. Teaching styles will be designed to 'model' the practices in science communication and public engagement.

Learning from one module is transferable to other modules thus ensuring interconnection across the course and providing experiences for deeper learning and for the application of key principles in different contexts. You will be exposed to a variety of science communication and public engagement issues and methodologies. In the process, you will develop critical thinking skills and self-evaluation skills through reflective practice.

#### Compulsory courses

Science and Society: Providing Background and Context for Science Communication and Public Engagement Principles and Practice of Public Engagement Practical Science Communication Skills Dialogue for Science Communication and Public Engagement Science Policy and Practice Science Education.

Students will also complete two placements in public engagement workplaces. The University of Edinburgh has excellent links with many organisations and placement opportunities include: National Museum Scotland, Edinburgh International Science Festival and placements in policy and education.

#### Career opportunities

There has been a significant rise in opportunities available for scientists with the specialist knowledge, skills and attributes necessary to pursue roles at the interface between scientific research and the public. These roles can be found in, for example, higher education institutions, museums, science centres, learned societies and consultancies for democratic decision-making. Examples of specific roles are Engagement Managers, Information and Education Officers, Policy and Knowledge Brokers.

#### Minimum entry requirements

A UK 2:1 honours degree, or its international equivalent (see **www.ed.ac.uk/ international/country**), in science, mathematics, engineering or another relevant subject.

**English language requirements** See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

### Programme Director

Elizabeth Stevenson E: e.stevenson@ed.ac.uk

# TRANSFUSION, TRANSPLANTATION AND TISSUE BANKING

#### www.ed.ac.uk/pg/233

MSc (3 yrs PT available for UK/EU students)

#### Programme description

This part-time programme is organised with the support of both the Scottish National Blood Transfusion Service and the British Blood Transfusion Society. Both have leading international reputations for transfusion, transplantation and tissue banking. It has also been designed to be aligned to NHS requirements and stipulations for career progression for biomedical scientists, clinical scientists and other healthcare professionals working in these fields.

The programme will give you an in-depth expertise and knowledge of the science, regulations and international practices in transfusion, transplantation and tissue banking, for those aiming for more senior management roles in healthcare organisations.

#### Programme structure

The programme involves eight, one-week modules that combine lectures, tutorials and assessments. You will also need to carry out your own self-directed learning between courses. After two years you will take three exams for the diploma qualification. If you are successful, you can carry out a research project in the third year to achieve your masters qualification.

While studying the MSc you will learn the following subjects:

- donation of blood, organs and tissues
- components, reagents and products-principles and processes
- clinical transfusion practice
- clinical laboratory practice (as it relates to transfusion, transplantation and tissue banking)
- transfusion microbiology
- quality, information technology and planning skills
- management and research skills.

#### **Career opportunities**

This programme is designed to help you progress within health services in transfusion, transplantation and tissue banking fields.

#### Minimum entry requirements

A relevant UK 2:1 undergraduate degree, or its international equivalent (see **www.ed.ac.uk/international/country**). Applicants should also, preferably, have at least two years experience of working in a relevant discipline, in a healthcare setting, and be working in a transfusion, transplantation or tissuebanking environment.

#### English language requirements

See page 49

#### Tuition fees in 2012/13\*

3 yrs PT: UK/EU £5,750 per year

\*Fees change annually. For the most up-to-date information about fees see www.ed.ac.uk/student-funding.

#### **Programme Director**

Anne Thomson E: anne.thomson2@nhs.net

#### VETERINARY SCIENCE

#### www.ed.ac.uk/pg/240

MVetSci 1 yr FT (2 yrs PT available for UK/EU students)

#### Programme description

This programme is the only one of its kind in the UK. It is designed for highcalibre, veterinary graduates from clinical backgrounds who want to explore and benefit from veterinary research, perhaps with a view to pursuing a PhD or a career in research.

The programme offers you the opportunity to undertake a research project in a laboratory or department relevant to your speciality. The choice of research projects carried out is wide, and ranges from bench research to clinical research. You will need to secure a supervisor and decide upon your project before starting the degree. Subjects include:

- epidemiology
- gene delivery
- genetics
- immunology
- microbiology
- neuroscience
- parasitology pathology
- welfare and zoo animals.

#### Programme structure

The programme begins with a month of teaching to give you an overview of the whole range of techniques used in medical research. The first two weeks comprise lectures on subjects from stem cell biology to ethics and clinical trials and statistics training. This will follow with two weeks of practical workshops in cell biology and molecular medicine and learning practical techniques, including basic tissue culture, how to do PCRs and run Western Blots. After the first month of teaching you will move to a laboratory most relevant to your own speciality.

#### Career opportunities

Most MVetSci graduates go on to study for a PhD. Those who choose to return to clinical practice go back with a broader experience of research than is afforded by the undergraduate clinical veterinary curriculum.

#### Minimum entry requirements

An undergraduate degree, or its international equivalent (see **www.ed.ac.uk**/ **international/country**), in clinical veterinary medicine. Intercalating veterinary students may also be eligible to apply.

English language requirement

See page 49

#### Tuition fees in 2012/13\*

1 yr FT: UK/EU £5,750; international £17,200. Additional programme costs: £4,000. \*Fees change annually. For the most up-to-date information about fees see

www.ed.ac.uk/student-funding.

#### Programme Director

Jeremy Bradshaw E: jeremy.bradshaw@ed.ac.uk

# A world-class research experience

As an institution we produce world-leading and internationally recognised research. Recently our research centres have coalesced into five internationally-outstanding research institutes:

- Edinburgh Neuroscience
- The Queen's Medical Research Institute
- The Institute of Genetics and Molecular Medicine
- The Roslin Institute
- Edinburgh Infectious Diseases.

# Edinburgh Neuroscience

#### www.edinburghneuroscience.ed.ac.uk

The mission of Edinburgh Neuroscience is to integrate basic and clinical research in order to drive the fundamental genetic, cellular, organ, systems and computational neuroscience underpinning pathogenesis into mechanistic understanding, future diagnostics and therapeutics of important diseases of the nervous system. We serve the interests of all members of the neuroscience community, encompassing and supported by the Research Centres and Institutes of the University of Edinburgh and its affiliates. Around 400 staff, 140 postdoctoral researchers, 230 PhD students and 30 MSc students, working in approximately 120 research laboratories.

Our research centres:

- Centre for Clinical Brain Sciences www.ccbs.ed.ac.uk
- Centre for Cognitive and Neural Systems www.ccns.ed.ac.uk
- Centre for Neuroregeneration
   www.cnr.ed.ac.uk
- Centre for Integrative Physiology www.ed.ac.uk/schools-departments/ integrative-physiology

# The Queen's Medical Research Institute

The QMRI, opened in 2005, houses more than 600 researchers and focuses on medical cell biology. Its major themes are inflammation; cardiometabolic risk; reproduction and development; regenerative medicine. It is an exemplary environment for interdisciplinary research activity. Our research centres:

- Centre for Cardiovascular Research www.cvs.med.ed.ac.uk
- MRC Centre for Inflammation Research www.cir.ed.ac.uk
- MRC Centre for Reproductive Health www.crh.ed.ac.uk
- MRC Centre for Regenerative Medicine www.crm.ed.ac.uk

# The Institute for Genetics and Molecular Medicine

#### www.igmm.ac.uk

With more than 500 research and support scientists, IGMM is one of the largest centres for human genetics and molecular medicine, both in the UK and internationally. The IGMM's priorities are basic through to clinical research across the major themes of: Brain Biology and Disease; Cancer; Common Disease Genetics; Paediatrics. All are underpinned by strong basic science.

Our research centres:

- Edinburgh Cancer Research Centre
   www.ecrc.ed.ac.uk
- Centre for Molecular Medicine
   www.mmc.med.ed.ac.uk
- Centre for Population Health Sciences www.cphs.mvm.ed.ac.uk
- The MRC Human Genetics Unit www.hgu.mrc.ac.uk

# The Roslin Institute

#### www.roslin.ed.ac.uk

The Roslin Institute, housed in its new building at Easter Bush, undertakes research focussed on the health and welfare of animals, and applications of basic animal sciences in human and veterinary medicine, the livestock industry and food security. It is adjacent to the new Royal (Dick) School of Veterinary Medicine building. Roslin is a key member of the Easter Bush Research Consortium.

# Edinburgh Infectious Diseases

#### www.eid.ed.ac.uk

Edinburgh Infectious Diseases is the organisational hub for the extensive community of infectious disease scientists in Edinburgh: a large and diverse group with 550 research workers and graduate students and more than 70 Principal Investigators.

Our research centres include:

- Division of Pathway Medicine
- Global Health Academy
- The Roslin Institute
- Royal (Dick) Veterinary School
- National CJD Surveillance Unit

and in the College of Science and Engineering:

- Centre for Immunity, Infection and Evolution
- Centre for Tropical Veterinary Medicine
- Institute of Evolutionary Biology (IEB)
- Institute of Immunology and Infection Research
- Institute of Structural Molecular Biology.

# Research opportunities

An MSc by Research degree offers the opportunity to study advanced-level, taught modules in your chosen area, along with research skills training, relevant to your particular field. An MPhil is a two-year programme: the objective of which is to produce a researcher who has acquired a good, all-round knowledge of their subject, and the research skills to carry out original research to a higher degree. A PhD is a research degree entailing research training and supervised research, either on an individual basis, or as part of a team. The aim of the PhD is to provide a thorough training in a particular academic area, through original investigation and experimentation. A PhD typically takes three years to complete and is assessed by thesis.

The following list of research areas offered by the College is not exclusive. Potential PhD students should get in touch with the relevant contacts below to informally discuss their proposed project prior to applying.

### ANAESTHESIA AND PAIN MEDICINE

#### www.ed.ac.uk/pg/207

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

This programme is integrated into a large clinical department which provides medical services in the Lothian region.

Within the area of anaesthesia we have a number of research projects taking place. These range from investigations of cerebral outcome after cardiopulmonary bypass, to studies of postoperative pain relief and the prevention of chronic pain, and of preferred forms of obstetric analgesia and anaesthesia.

We also have an active collaboration between clinicians, the Department of Nursing Studies, and the School of Informatics of the University of Edinburgh, developing sensors and clinical response systems for acutely ill and postoperative patients, using speckled technology.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Maxine Pepper (Department Secretary) E: anaes@ed.ac.uk

# CARDIOVASCULAR

#### www.ed.ac.uk/pg/208

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The Centre for Cardiovascular Science aims to foster and deliver research into the causes, consequences and therapy of the cardiovascular diseases. We offer postgraduates the opportunity to work within internationally leading research programmes addressing fundamental development and control of the cardiovascular system and the origins and consequences of cardiovascular disease. The work extends from basic laboratory research through to clinical studies. In 2008, the Centre was designated as one four British Heart Foundation Centres of Research Excellence (CoRE) and was awarded £7.6 million over a six-year period. Major research efforts are directed at the metabolic syndrome and risk factors for cardiovascular disease, mechanisms of atheromatous plaque formation and disruption, prenatal programming of cardiovascular disease, renal dysfunction and hypertension, mechanisms of endothelial dysfunction, circadian biology and cell biology.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Matthew Bailey (Postgraduate Contact) E: matthew.bailey@ed.ac.uk

# CHILD LIFE AND HEALTH

#### www.ed.ac.uk/pg/209

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

Our main areas of research include brain and acute injury, brain and handicap, cancer and late effects, gastroenterology and nutrition, growth and endocrinology, immunology of respiratory viral infections, asthma and allergy, and surgery.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Jurgen Schwarze E: jurgen.schwarze@ed.ac.uk

# CLINICAL BRAIN SCIENCES/CLINICAL NEUROSCIENCES

#### www.ed.ac.uk/pg/235

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

#### Research profile

The Centre for Clinical Brain Sciences (CCBS) is a multidisciplinary translational centre without walls that combines basic and applied research to study the causes, consequences and treatment of major brain disorders. CCBS is a major University interdisciplinary group that comprises the Division of Clinical Neurosciences (**www.dcn.ed.ac.uk**) and the Division of Psychiatry (**www.pst.ed.ac.uk**). Postgraduate students are mentored and supported by at least two supervisors and receive longer term guidance from their thesis committee. We offer a transferable skills programme and project-specific courses. PhD meetings and an annual CCBS Day offer valuable opportunities for interdisciplinary collaboration.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Rachel Burrow (Administrator, CCBS) E: rachel.burrow@ed.ac.uk



#### COGNITIVE AND NEURAL SYSTEMS

#### www.ed.ac.uk/pg/401

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

Members of the Centre of Cognitive & Neural Systems (CCNS) are divided into different research groups with a focus on human cognitive neuroscience (including ageing), the neurobiology of learning, memory and plasticity (focusing on hippocampus and cortex), the processing of nociceptive somatosensory information, cerebrovascular physiology and pharmacology and the consequences of drug action, including drugs of abuse. The CCNS offers membership from several different disciplines across the University.

The scientific goal of the CCNS is to understand information processing by the central and peripheral nervous systems, at several different levels of analysis, from cognitive psychology through cognitive neuroscience and brain imaging, behavioural neuroscience and neuropharmacology, and extending to theoretical models of neuronal networks. The CCNS is based at the central campus, and has excellent facilities for cognitive and systems neuroscience, including human cognitive neuroscience, functional MRI facilities, rodent surgical facilities, testing rooms for water mazes, event arenas, single-unit recording in freely moving rodents, *in vivo* and *in vitro* (slice) electrophysiological recording, histology, confocal microscopy and wet-lab facilities. We also offer expertise and facilities for functional imaging in animals and excellent genetic models of CNS diseases. Molecular and cellular analysis of cell death and plasticity underpin *in vivo* investigating.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Postgraduate Secretary E: sbms-postgraduate@ed.ac.uk

#### DENTISTRY

#### www.ed.ac.uk/pg/211

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

#### **Research profile**

There are opportunities for both full-time and part-time research. In addition to our formal research degrees, applications are accepted for shorter periods where a contribution can be made to one of our research themes, giving the opportunity for development of research skills.

Our research degrees provide training in specific research methodologies. Those registered for formal research degrees also have the opportunity for formal generic training in research skills, provided within the College.

#### Tuition fees in 2012/13\*

PhD 3 yrs FT: £28,000 for UK/EU/international students per year

MPhil 2 yrs FT: £28,000 for UK/EU/international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact

Jackie McGurk (Programme Administrator) E: epdi@ed.ac.uk



# DERMATOLOGY

#### www.ed.ac.uk/pg/212

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

We focus entirely on clinical research and patient-orientated research in a limited number of areas. We have interests in the genetics and biology of susceptibility to ultraviolet radiation; skin cancer; the role of nitric oxide in skin; pathophysiology of itch; and automated diagnostic systems in dermatology. We collaborate widely with the School of Informatics, the School of Chemistry and the MRC Human Genetics Unit.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

### Contact

Jonathan Rees E: jonathan.rees@ed.ac.uk

# EDINBURGH CANCER RESEARCH CENTRE

#### www.ed.ac.uk/pg/237

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

#### Research profile

Edinburgh Cancer Research UK Centre (ECRC) strives to take a comprehensive approach to cancer research, combining both laboratory-based research and clinical approaches. Overall the Centre studies the genetic and biological basis of cancer and disease pathology and devises and tests new forms of therapy arising from our basic, translational and clinical research programmes. Our ultimate aim is to carry out high quality research into effective cancer prevention, diagnosis and treatment, as well as the symptoms associated with cancer.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Pauline McDonald (Studentship Administrator) E: ecrc\_pg\_administration@ed.ac.uk



### **GENERAL PRACTICE**

#### www.ed.ac.uk/pg/213

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

Research in general practice takes place under the auspices of the Centre for Population Health Sciences. This Centre focuses on the themes of cancer, vascular disease, health inequalities and effectiveness in primary care and public health.

The general practice section conducts a multidisciplinary research programme that aims to advance development in primary care policy and practice. Informed by an evidence-based approach, the programme focuses on assessing community health needs and improving service provision and clinical effectiveness.

The research group collaborates widely with the academic and healthcare communities, both nationally and internationally, and is providing leadership as the National Health Service changes from a hospital-based to a primary care-led organisation.

Themes of our research programme include:

- evidence-based practice: reflecting our priority of enhancing the evidence base of general practice through research that is relevant and can influence practice;
- patient perspectives of illness: reflecting general practice's long-standing interest in the provision of care from the patient's perspective; health inequalities.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Maggie Luttrell (Postgraduate Administrator) E: phs.MSced.ac.uk

## GERIATRIC MEDICINE

#### www.ed.ac.uk/pg/214

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

Our research activities and collaborations span preclinical science, experimental medicine and clinical trials, with the focus on the key geriatric syndromes of cognitive impairment, stroke and frailty, each leading causes of morbidity. Our work also encompasses the broader field of healthy ageing. The research programmes in geriatric medicine have their main bases in three different hospitals:

#### **Royal Infirmary of Edinburgh**

A programme of studies of the effects of use, disuse, ageing, and disease on muscle structure and function. In addition, work continues on the development of case mix adjusted outcome assessment to facilitate increasingly sophisticated comparisons of hip fracture care in different centres. The Royal Infirmary is also the base for studies investigating the role of fitness training after stroke, the effect of stroke on muscle function and fatigue after stroke, in close collaboration with the Centre for Clinical Brain Sciences; and for new studies investigating the role of glucocorticoids in the aetiology of delirium following surgery.

#### Western General Hospital

A series of collaborations with the IDG in brain ageing and its disorders, the SFC Brain Imaging Research Centre and the MRC Human Genetics Unit, examining factors influencing age-associated changes in cognitive function, including early life influences. There are also studies of the health of older adults with a learning disability.

#### **Borders General Hospital**

The base for Scotland's first comprehensive stroke ascertainment study, which is creating a wide range of research opportunities, in addition to providing information crucial for service planning and development.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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# GLOBAL HEALTH

#### www.ed.ac.uk/pg/698

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

#### Research profile

Global health is not one single discipline, but multiple disciplines cutting across traditional institutional functions and boundaries. Undertaking a PhD at the University of Edinburgh offers you the opportunity to work in a multi- and interdisciplinary way, building on your knowledge, skills, interest and passion to carry out innovative global health research that makes a new contribution to the existing knowledge base.

Through the Global Health Academy you have the opportunity to work alongside researchers doing world-leading research in the following fields: biomedical, clinical, social science, engineering and veterinary research.

Our research priorities are many and include such global health issues as mapping and measuring the shifting burden of global disease; neglected and emerging tropical diseases; infectious diseases, noncommunicable diseases; global palliative care; population health; social inequalities in health; sexual and reproductive health; e-health and tele-medicine; migration and minority ethnic health; culture; faith and health; and the translation of leading scientific advances into effective interventions.

There are many opportunities to study, if you are interested in a PhD write to us with your idea and we will endeavour to match you with potential centres of excellence and supervisors.

### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Professor Sue Welburn E: Sue.welburn@ed.ac.uk

# INFECTIOUS DISEASES

#### www.ed.ac.uk/pg/198

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The Centre for Infectious Diseases was established in 2001. As well as drawing on the expertise of academics across the University, we have strong links with the NHS and the Moredun Research Institute. The Centre aims to promote excellence in infectious diseases research. It brings together researchers spanning infectious diseases of man and animals, with the focus being infection and evolution. The Centre also has expertise in prion diseases, viruses, bacteria and parasites, involving research from the gene to population.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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#### INFLAMMATION

#### www.ed.ac.uk/pg/215

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

The Centre for Inflammation Research (CIR) was formally established in 1998. It aims to promote the prevention, diagnosis and treatment of inflammatory diseases through interdisciplinary study of the initiation, regulation and resolution of inflammatory responses and provision of an outstanding environment for research training in the field. CIR investigators aim to characterise and manipulate key control points in inflammation. We focus on:

- inhibiting the initiation of inflammation by blocking immunologically specific triggers and by modulating cellular and tissue responses to injurious stimuli
- finding new approaches to promote beneficial regulation of established inflammatory responses so as to limit tissue injury
- promoting safe resolution of inflammation and restoration of the structure and function of the perturbed tissue.

We have particular interest in inflammatory diseases of the lung and kidney but the principles derived will have ready application to inflammatory responses in the liver, bowel, bone/joint and skin. There is also increasing development of research in the CIR into the links between inflammation and cancer.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Gillian MacLeod E: gillian.macleod@ed.ac.uk

#### INTEGRATIVE PHYSIOLOGY

#### www.ed.ac.uk/pg/400

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

The Centre for Integrative Physiology (CIP) fosters research into fundamental mechanisms and pathways relevant to human function and disease. CIP investigators exploit rapid advances in the enabling technologies available from genomics, proteomics, imaging, informatics, and *in vivo* analysis to understand the function of gene products at the cell, organ and whole-animal level. Importantly, CIP investigators exploit the most appropriate model organisms/systems to investigate the key physiological question being posed: a delicate balance between high biomedical relevance (for example human, mouse, rat) and high genetic power (such as Drosophila and fish).

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Postgraduate Secretary E: sbms-postgraduate@ed.ac.uk



# MEDICAL PHYSICS AND MEDICAL ENGINEERING

#### www.ed.ac.uk/pg/217

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The Medical Physics Unit pursues research in fields where physics and engineering are applied to medicine. The main thrust of the research is in medical imaging and its integration with computational modelling. Our research encompasses ultrasound, magnetic resonance, CT scanning, arterial mechanics incorporating computational modelling (CFD and solid mechanics) and experimental flow systems. A key feature of the research activities is collaboration with other University divisions, Schools and research centres, including cardiovascular science, reproductive biology, clinical brain sciences, engineering, physics and mathematics.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Peter Hoskins (Postgraduate coordinator) E: P.Hoskins@ed.ac.uk

# MOLECULAR MEDICINE

#### www.ed.ac.uk/pg/236

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

#### Research profile

The CMM comprises Gastroenterology, Medical Genetics and Rheumatology sections. Areas of research include molecular and immunological aspects of gastroenterology, the molecular genetics of diseases including schizophrenia, bipolar disorder, cystic fibrosis, motor neuron disease, Alzheimer's and cancer, gene therapy, the role of cytokines in rheumatoid arthritis, and the genetics of bone metabolism.

The CMM, physically linked to the MRC Human Genetics Unit, has created an unparalleled area of expertise in all aspects of molecular biology. The CMM, MRC Human Genetics Unit and Cancer Research Centre recently joined together to form the Institute for Genetics and Molecular Medicine (www.igmm.ac.uk/index.htm), providing a critical mass of researchers and facilities in the scientific areas of cell and molecular biology, biochemistry, developmental biology, human genetics, statistical genetics, model organisms, computational biology, pathology, public health and epidemiology and clinical trials. The Western General hospital campus also houses one of only five Wellcome Trust Clinical Research Facilities (www.wtcrf.ed.ac.uk) in the UK. The Centre for Clinical Brain Sciences is also located at the Western General Hospital campus.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Pauline McDonald (IGMM Studentship Administrator) E: Pauline.McDonald@hgu.mrc.ac.uk

# Dorothy Tse

#### MSc by Research Neuroscience 2005 PhD Neuroscience 2011

Dorothy Tse studied at the Centre for Cognitive and Neural Systems at the School of Biomedical Science, conducting research into the neurobiology of rapid memory consolidation. She received her MSc by Research in Neuroscience in 2005, followed by a PhD in Neuroscience in 2011. Ms Tse chose to study at the College because "it has a great reputation as a neuroscience research centre with a diverse range of research areas".

Miss Tse is now working as a postdoctoral researcher at the University's Centre for Cognitive and Neural Systems, within the College of Medicine & Veterinary Medicine. She counts her greatest research achievements as working on an animal model of rapid memory consolidation – and having two papers published in the journal *Science*.



"Postgraduate research at the College gave me the opportunity to learn different techniques and collaborate with different researchers around the world, which was invaluable. I had the chance to explore different aspects of research which helped me to choose the career path I would like to pursue. Research is great fun!"

#### NEUROSCIENCE

#### www.ed.ac.uk/pg/200

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

The Centre for Neuroregeneration (CNR) conducts research at the cellular and molecular levels. There is active collaboration with clinical neuroscientists as well as computational neuroscientists working in neuroinformatics. The Edinburgh neuroscience community maintains the highest standards of research training and a long tradition of research publication in international journals. A more detailed synopsis of the Centre's research interests may be found at **www.cnr.ed.ac.uk**.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Postgraduate Secretary E: sbms-postgraduate@ed.ac.uk

### ORTHOPAEDIC AND TRAUMA MEDICINE

#### www.ed.ac.uk/pg/218

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

We offer a comprehensive research programme covering a diverse range of musculo-skeletal disorders. There are ongoing projects in musculo-skeletal tissue engineering, stem cells and regenerative medicine; orthopaedic engineering and modelling of the musculoskeletal system; osteoporosis and fracture repair; and clinical outcome studies.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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#### PATHOLOGY

#### www.ed.ac.uk/pg/506

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

The Human Cancer Biology Group, based in the Sir Alastair Currie Cancer Research UK laboratories, in the Molecular Medicine Centre, is studying the molecular genetics of cancer, with particular reference to the role of genes in carcinogenesis and tumour regression that may influence the process of apoptosis.

The Cell and Tissue Injury Group and the Immunobiology Group are parts of the interdepartmental MRC Centre for Inflammation Research. The Cell and Tissue Injury Group is studying the pathogenesis of several major human diseases in which the reactions to cell injury are significant, notably liver injury disease, osteoarthritis, interstitial lung disease and fibrotic disease of the liver. The Immunobiology Group is studying the role of developmental genes in immune response in the context of chronic lung inflammation.

The Neuropathological Disorders group is studying the chronic infective dementias (AIDS and Creutzfeld-Jakob disease) for which it provides a National Brain Bank resource, other neurone generative diseases, and the reaction of the brain to acute and chronic injury.

There are excellent facilities for molecular and cell biology, immunology, image analysis and cell culture. Within Edinburgh, there are strong links with clinical colleagues and scientists across the University, MRC Units, and the Centre for Genome Research.

The large diagnostic histopathology service that the division undertakes makes it a favourable environment in which to combine fundamental cell biological and applied clinical studies of human disease.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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# PATHWAY MEDICINE

#### www.ed.ac.uk/pg/399

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The central goal of the Division of Pathway Medicine (DPM) is to integrate post-genomic science with medicine in order to provide a better understanding of disease processes. This will provide the basis for the development of new medical innovations for the diagnosis and treatment of human diseases. To do this the DPM promotes multidisciplinary interactions between science and medicine.

The DPM has two main research themes: a) pathway biology of infection and immunity involving the study of host-pathogen interaction in immune cells and the modelling of molecular pathways that control immune cell function in health and disease and: b) biochip medicine in systemic response to disease involving the development of advanced biochip techniques and platforms for translating genomic and pathway research into clinical healthcare.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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# PUBLIC HEALTH SCIENCES

#### www.ed.ac.uk/pg/219

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students) MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

A principal aim is to foster interdisciplinary research involving quantitative and qualitative approaches via effective collaboration with biomedical scientists, epidemiologists, social scientists and clinical researchers throughout the University and beyond.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Maggie Luttrell (Postgraduate Administrator) E: phs.MSc@ed.ac.uk



#### **PSYCHIATRY**

#### www.ed.ac.uk/pg/507

PhD 3 yrs FT (6 yrs PT available for UK/EU students) MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### **Research profile**

We have demonstrated, for the first time, that structural and functional MRI changes precede the onset of psychosis and could be used as a diagnostic aid. We have also demonstrated that it is possible to separate, using imaging, autism from learning disability in people of matched IQ. We have made substantial progress in the discovery of genes, including DISC-1, associated with psychosis and have played a leading role in understanding how genetic variation alters brain structure and function and risk for mental illness. Our major disease targets (that straddle the disciplines of Neurology and Psychiatry) include: autism and learning disability (Andrew Stanfield), bipolar disorder and depression (Andrew McIntosh), and schizophrenia and personality disorder (Jeremy Hall, Stephen Lawrie).

#### Tuition fees in 2012/13\*

PhD 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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### **REGENERATIVE MEDICINE**

#### www.ed.ac.uk/pg/695

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

#### Research profile

The Centre for Regenerative Medicine incorporates the Institute for Stem Cell Research and the Multiple Sclerosis Centre, and achieved MRC (Medical Research Council) Centre status in 2008. We are now an internationally recognised centre of excellence in stem cells and their applications in human health and disease. Our work is currently organised into five themes. To promote collaboration within the Centre, we adopt a flexible approach to these themes with each Principal Investigator having one or more secondary affiliations. Two themes focus on fundamental research – pluripotency and IPS and lineage and cell specification. The other three aim to translate fundamental research discoveries into clinical programmes relevant to brain, blood and liver diseases and to tissue repair. The Centre has strong collaborative links to other centres within the University, such as the Euan MacDonald Centre for MND Research, the MS Centre and the Roslin Institute. We also invest in technological development in all areas.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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## **REHABILITATION STUDIES**

#### www.ed.ac.uk/pg/220

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

Rehabilitation Studies has considerable research expertise in measuring outcomes in the context of disabling disease and has major interests in cardiac, locomotor and neurological disorders and their rehabilitation. A driving-assessment facility and a national head-injury rehabilitation centre are incorporated within the clinical services.

#### Tuition fees in 2012/13\*

PhD 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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# REPRODUCTIVE AND DEVELOPMENTAL SCIENCE

#### www.ed.ac.uk/pg/221

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The Centre for Reproductive Health incorporates Obstetrics & Gynaecology, Clinical Biochemistry and the Medical Research Council Human Reproductive Sciences Unit.

We are recognised internationally as a centre of excellence in research and teaching in reproductive biology and medicine. We are based in the purpose-built Queen's Medical Research Institute along with the Centres for Cardiovascular Research and Inflammation Research. Our research interests are wide-ranging and diverse, covering the development of novel methods of contraception (including male methods), the role of inflammation in a range of reproductive processes, regulation of the ovary in health and disease, the effects of environmental factors on development of the male reproductive tract, clock genes in reproduction, cervical ripening and the regulation of labour, and cell signalling.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

C Harlow E: c.harlow@ed.ac.uk



#### **REPRODUCTIVE HEALTH**

#### www.ed.ac.uk/pg/221

PhD 3 yrs (6 yrs PT available for UK/EU students)

#### **Research profile**

The MRC Centre for Reproductive Health is recognised internationally as a centre of excellence in research and teaching in reproductive biology and medicine. It is housed in the purpose-built Queen's Medical Research Institute along with centres for Cardiovascular Research and Inflammation Research.

The research interests of the Centre are wide-ranging and diverse, covering the development of novel methods of contraception (including male methods), the role of inflammation in a range of reproductive processes, regulation of the ovary in health and disease, the effects of environmental factors on development of the male reproductive tract, clock genes in reproduction, cervical ripening and the regulation of labour, and cell signalling.

The Centre for Reproductive Health incorporates Obstetrics & Gynaecology, Clinical Biochemistry and the Medical Research Council Human Reproductive Sciences Unit.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £4,850 for UK/EU students; £14,750 for international students per year. Additional costs £2,000

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Nicola Cole E: Nicola.Cole@ed.ac.uk

### **RESPIRATORY MEDICINE**

#### www.ed.ac.uk/pg/223

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The major areas of research interest are:

- cellular and molecular mechanisms of the resolution and persistence of lung inflammation and scarring;
- mechanisms of acute lung injury in the adult respiratory distress syndrome;
- gene therapeutic approaches to the augmentation of genes that protect against tissue injury in lung inflammation;
- biology of small-cell lung cancer;
- the effects of cigarette smoke, ozone and other pollutants on the lung;
- sleep apnoea;
- applied lung physiology;
- The unit also offers a number of research opportunities in areas of clinical interest, for example asthma, chronic bronchitis, emphysema and cystic fibrosis.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Gillian MacLeod (Postgraduate Contact) E: gillian.macleod@ed.ac.uk

### **SURGERY**

#### www.ed.ac.uk/pg/224

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

The department of surgery is headed by Professor O James Garden and has an international profile in surgical research. Strong research themes include liver injury and regeneration, innate immunity, the role of the macrophage in chronic kidney-graft rejection, foetal liver stem-cell research, cancer inflammation, medical imaging using microbubbles, modification of stress response pathways and aspects of clinical research in hepatobiliary surgery and transplantation.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

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# VETERINARY MEDICINE

#### www.ed.ac.uk/pg/484

PhD 3 yrs FT (6 yrs PT available for UK/EU students)

MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

#### Research profile

Research programmes focus on the health and welfare of animals, epidemiology of infectious disease, applications of basic animal sciences in human and veterinary medicine, the livestock industry and food security. Our research areas include:

- Infection and Immunity Research on infectious diseases of animals focused on understanding host-pathogen interactions to allow development of improved disease control methods.
- Genetics of Animal Diseases The study of animal genetics to understand the genetic basis of susceptibility and resistance to disease.
- Oncology Comparative and translational oncology, studying cancer biomarkers, therapeutic targets and the role of stem cells in cancer.
- Stem Cells Research on the biology of animal stem cells and their use for disease therapy.
- Neurodegenerative Disease The biology of neurodegenerative diseases focusing particularly on the transmissible spongiform encephalopathies.
- Animal Welfare Objective understanding of how to improve the quality of animals' lives.
- Animal Health in the Developing World Development of control strategies for important animal and zoonotic diseases in developing countries.
- Animal Developmental Biology the study of cell and tissue growth and differentiation from the early embryo through adulthood.
- Food Safety Improving food safety by understanding interactions between disease-causing organisms and animals.

#### Tuition fees in 2012/13\*

**PhD** 3 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

MPhil 2 yrs FT: £3,828 for UK/EU students; £15,000 for international students per year

**MSc by Research** 1 yr FT: £5,750 for UK/EU students; £17,200 for international students

\*Fees change annually. For the most up-to-date information about fees see **www.ed.ac.uk/student-funding**.

#### Contact:

Postgraduate Secretary E: vetpgresearch@ed.ac.uk

# Funding

# A large number of scholarships, loans and other funding schemes are available for your postgraduate studies. You can find the full range at **www.ed.ac.uk/student-funding**.

Awards are offered by the College of Medicine & Veterinary Medicine, the University of Edinburgh, the Scottish, British and international governments and funding bodies. Below we list a selection of potential sources of financial support for postgraduate students applying to the College of Medicine & Veterinary Medicine.

# University of Edinburgh scholarships

# British Heart Foundation Programme in the Cellular and Molecular Basis of Cardiovascular Disease

Awarded to outstanding young science graduates wishing to pursue a career in cardiovascular research.

#### www.ed.ac.uk/schools-departments/medicine-vet-medicine/ postgraduate

# British Heart Foundation Centre of Research Excellence Award

Three studentships are awarded annually to students with a background in the physical sciences who wish to establish a career in cardiovascular research.

#### www.bhfcore.ed.ac.uk/Training%20and%20Mentoring/PhD%20 Studentships

# China Scholarships Council/University of Edinburgh Scholarships

A number of scholarships for PhD study to candidates who are citizens and residents of China.

#### www.ed.ac.uk/student-funding/china-council

# College of Medicine and Veterinary Medicine PhD Studentships

A number of PhD studentships are available for prospective PhD candidates who are required to select their research project from a number of available projects. www.ed.ac.uk/schools-departments/medicine-vet-medicine/

# postgraduate/funding

Edinburgh Global Masters Scholarships A number of scholarships available to international students for masters study. www.ed.ac.uk/student-funding/masters

### Edinburgh Global Research Scholarships

These scholarships are designed to attract high-quality international research students to the University.

#### www.ed.ac.uk/student-funding/global-research

#### Edinburgh Santander Masters Scholarships

Several scholarships are available to students from a number of countries for masters study.

#### www.ed.ac.uk/student-funding/santander

### Edinburgh UK/EU Masters Scholarships

Scholarships for UK and EU students who have been accepted on a full-time masters degree programme.

### www.ed.ac.uk/student-funding/uk-masters

### Polish School of Medicine Memorial Fund

Awarded to suitably experienced and qualified early career medical scientists working in Polish medical universities and research institutes to undertake a period of further study or research at the University of Edinburgh's Medical School.

#### www.ed.ac.uk/student-funding/polish-medicine

# Principal's Career Development PhD Scholarships A number of awards, open to UK, EU and international PhD students.

www.ed.ac.uk/student-funding/development

#### Principal's Indian Masters Scholarships

15 scholarships are available to students from India for masters study. www.ed.ac.uk/student-funding/masters-india

# Other sources of funding

#### Commonwealth Scholarships

For students who are resident in any Commonwealth country, other than the UK. www.dfid.gov.uk/cscuk

### Fulbright Scholarships

Scholarships open to US graduate students in any subject wishing to study in the UK.

#### www.iie.org/fulbright

# Marshall Scholarships

Open to outstanding US students wishing to study at any UK university for at least two years.

www.marshallscholarship.org

#### Scotland's Saltire Scholarships

A number of scholarships open to citizens of Canada, China, India and the US, undertaking masters-level study in Scotland.

www.ed.ac.uk/student-funding/saltire

# The University of Edinburgh Graduate Discount Scheme

We offer a 10 per cent discount on postgraduate fees for all alumni who have graduated with an undergraduate degree from the University. www.ed.ac.uk/student-funding/discounts

# Research council awards

Research councils offer awards to masters, MPhil and PhD students in most of the Schools within the University of Edinburgh. All studentship applications from the research councils must be made through the University, through your School or College office. Awards can be made for both taught and research programmes.

Normally only those UK/EU students who have been resident in the UK for the preceding three years are eligible for a full award. For some awards, candidates who are EU nationals and are resident in the UK may be eligible for a fees-only award.

www.ed.ac.uk/student-funding/research-councils

# Financial aid

#### The Canada Student Loans Program

The University is eligible to certify Canadian student loan applications. Full details on eligibility and how to apply can be found online.

www.ed.ac.uk/student-funding/canadian-loans

#### The Student Awards Agency for Scotland

This department of the Scottish Government has offered loans to postgraduate students in the past. At time of going to press arrangements for study in 2013/14 were under review.

www.saas.gov.uk

#### US Student Loans

The University is eligible to certify loan applications for US loan students. Full details on eligibility and how to apply can be found online. www.ed.ac.uk/student-funding/us-loans

### Jason Weiss

PhD Molecular and Clinical Medicine Edinburgh Global Research Scholarship



"I chose Edinburgh because of its complete package. The University allows me to pursue my passion with cutting-edge equipment and facilities, with some of the brightest minds in their field, all within this amazing and beautiful city."



# How to apply

To be considered for a postgraduate programme within the College of Medicine and Veterinary Medicine, we usually require a relevant undergraduate degree with a minimum 2:1 classification. Where applicable, you will also be required to meet any language requirements in accordance with the University's regulations (see opposite). When applying online for a programme please note that supporting documentation must be uploaded with your application, otherwise this could delay the application process.

# Application guidance for online and on-campus taught programmes

## 1) Entry requirements

Check that you meet the entry requirements for your programme, including English language requirements.

# 2) Technical requirements (online programmes only)

If our online programmes require a computer and, preferably, broadband internet check your individual programme website for full details.

# 3) Funding options

The University and the College offers a variety of scholarships, and there may be other funding available to you, as you can see from pages 46-47. For more information see: **www.** ed.ac.uk/schools-departments/studentfunding

# 4) Complete the online application form

Visit our degree finder online to find the programme you wish to apply for and follow the instructions.

# Application guidance for research degrees

# 1) Entry requirements

Check that you meet the entry requirements for your programme, including English language requirements.

# 2) Choose a research centre

Identify a research centre that matches your own research interests and then read online about the centre's research projects and academic staff profiles.

# 3) Contact academic staff

Once you've identified a member of academic staff that you would like to work with, email them a covering letter and CV to discuss the possibility of applying for a PhD on one of their research projects.

# 4) Look at funding options

The University and the College offers a variety of scholarships, and each research centre may also have funding available, as you can see from pages 46-47. For more information see: www.ed.ac.uk/schools-departments/ student-funding.

# 5) Complete the online application form

Once you have a project and a supervisor in place, please apply for your chosen PhD via the PhD programmes page. Your application will then be screened and we will contact your potential supervisor to proceed with issuing an offer.

# Contacting us

Before you apply for either a taught masters or a research degree, we strongly advise you write to us to obtain advice about your proposed programme. This is particularly important if you are interested in research since we must ensure the availability of facilities and expert supervision.

# Joining us from overseas

International applicants are advised to check the University's website to find out more about visa arrangements and our Integrated English for Academic Purposes (IEAP) programme. Please visit **www.ed.ac.uk/international/ieap**.

# International agents

The University has certified representative agents in the following locations: Brunei, Canada, China, Gulf Region, Hong Kong, India, Japan, Jordan, Korea, Malaysia, Mexico, Nigeria, Norway, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, Thailand, Turkey, Zambia and Zimbabwe. International applicants can use an agent to help guide them through the application process if necessary. Contact details for all our agents can be found at www.ed.ac.uk/studying/ international/agents.

# Further guidance

Further guidance on applying to programmes in the College can be found at: www.ed.ac. uk/schools-departments/medicine-vetmedicine/postgraduate/how-to-apply.

# English language requirements

Students whose first language is not English must show evidence of one of the qualifications listed in the table below.

All programmes in the College of Medicine except those noted below, require:	IELTS Academic module 6.5 (with 6.0 in each section) TOEFL iBT 92 (with at least 20 in all sections) Cambridge CPE Grade C (with a minimum grade of 'weak' in listening, speaking, reading, writing) Cambridge CAE Grade B (with a minimum grade of 'weak' in listening, speaking, reading, writing) Pearson Test of English 61 (with no score lower than 56 in each of the 'Communicative Skills' sections - 'Enabling Skills' section scores are not considered)
MSc Biomedical Sciences Master of Public Health MSc Science Communication and Public Engagement MSc Transfusion, Transplantation and Tissue Banking programmes	<ul> <li>IELTS Academic module 7.0 (with at least 6.5 in each section)</li> <li>TOEFL iBT 100 (with at least 23 in all sections)</li> <li>Cambridge CPE Grade B (with a minimum grade of 'weak' in listening, speaking, reading, writing)</li> <li>Cambridge CAE Grade A (with a minimum grade of 'weak' in listening, speaking, reading, writing)</li> <li>Pearson Test of English 67 (with no score lower than 61 in each of the 'Communicative Skills' sections – 'Enabling Skills' section scores are not considered)</li> </ul>
All programmes offered by the Postgraduate Dental Institute require:	IELTS Academic module 7.0 (with at least 6.5 in each section) TOEFL iBT 100 (with at least 23 in all sections) Cambridge CPE Grade B (with a minimum grade of 'weak' in listening, speaking, reading, writing) Cambridge CAE Grade A (with a minimum grade of 'weak' in listening, speaking, reading, writing) Pearson Test of English 67 (with no score lower than 61 in each of the 'Communicative Skills' sections – 'Enabling Skills' section scores are not considered)

#### Please note:

- English language requirements can be affected by government policy so please ensure you visit our website for the latest details. www.ed.ac.uk/english-requirements/pg/mvm
- Your English language certificate must be no more than two years old at the beginning of your degree programme.
- A degree from an English-speaking university may be accepted in some circumstances.
- Cambridge tests are accepted only for applicants who do not need Tier 4 visas to enter the UK.

#### Abbreviations:

IELTS – International English Language Testing System TOEFL iBT – Test of English as a Foreign Language Internet-Based Test CPE: Certificate of Proficiency in English CAE: Certificate in Advanced English

# Get in touch

# Contact us

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- W: www.ed.ac.uk/medicine-vet-medicine/ postgraduate

Explore postgraduate life through our films, ezines and student blogs. Join in the conversation on Twitter or Facebook.

#### twitter.com/EdinburghMedVet

www.ed.ac.uk/medicine-vet-medicine/ postgraduate/explore

# Visit us

Our postgraduate Open Day is your opportunity to come and meet current staff and students. Our next campus-based Open Day takes place on Friday 23 November 2012. For further details, please visit

#### www.ed.ac.uk/postgraduate-open-day.

We also run online information sessions for prospective postgraduate students throughout the year. To find out more, visit

www.ed.ac.uk/pg/open-day/online-events.



# Campus maps









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**Postgraduate Open Day:** 23 November 2012

Induction Week: 9–13 September 2013 Semester 1: 16 September–20 December 2013 Semester 2: 13 Januarv–23 May 2014







This publication is available online at **www.ed.ac.uk** and can be made available in alternative formats on request Please contact **Communications.Office@ed.ac.uk** or call **+44 (0)131 650 2252**.

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