THE UNIVERSITY
of EDINBURGH

Biological Sciences

Postgraduate Opportunities 2019

Influencing the world since 1583

"Edinburgh isn't so much a city, more a way of life … I doubt I'll ever tire of exploring Edinburgh, on foot or in print."

Ian Rankin
Best-selling author and alumnus

02 Introduction
04 Taught masters programmes
10 Online learning
12 Research at the School of Biological Sciences
13 Research opportunities
16 About the School of Biological Sciences
17 Facilities and resources
18 Community
19 Employability and graduate attributes
20 Applications and fees
22 Funding
24 Campus map
25 Get in touch

Influencing the world since 1583

14 Nov 2018
Postgraduate Open Day
www.ed.ac.uk/postgraduate-open-day

For more than 400 years the University of Edinburgh has been changing the world. Our staff and students have explored space, won Nobel Prizes and revolutionised surgery. They've published era-defining books, run the country, made life-saving breakthroughs and laid the foundations to solve the mysteries of the universe.

Our distinguished 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, suffragist Chrystal Macmillan, who founded the Women's International League for Peace and Freedom, and physicist and mathematician James Clerk Maxwell.

International collaboration
An internationally renowned centre for academic excellence, we forge world-class collaborations with partners such as the California Institute of Technology (Caltech), Stanford University, the University of Melbourne, Peking University, the University of Delhi and the University of KwaZulu-Natal. As a member of the League of European Research Universities and the Coimbra Group, we link up with leading institutions across Europe.

Linking research and commerce
We were one of the first UK universities to develop commercial links with industry, government and the professions. Edinburgh Innovations promotes and commercialises our research excellence and can assist you in taking the first step to market, through collaborative research, licensing technology or consultancy.

Enhancing your career
We are committed to embedding employability in your University experience and have an impressive track record for graduate employment. From volunteering schemes to our sector-leading careers service, we provide you with opportunities to develop your skills, knowledge and experience, giving you an edge in the competitive job market.

TOP 50
We're consistently ranked one of the top 50 universities in the world. We're 18th in the 2019 QS World University Rankings.

4TH
We're ranked fourth in the UK for research power, based on the 2014 Research Excellence Framework.*

83%
The majority of our research – 83 per cent – is considered world leading or internationally excellent.*

TOP 100
We are ranked in the top 10 in the UK and in the top 100 in the world for the employability of our graduates.†

£373m
In 2016/17 we won £373 million in competitive research grants.

24
We are associated with 24 Nobel Prize winners.

13TH
We're ranked 13th in the world's most international universities.‡ Since 2010, we have taught students from 82 per cent of the world's countries.

* *Times Higher Education*, Overall Ranking of Institutions
† *Times Higher Education*, Global Employability University Ranking 2017
‡ *Times Higher Education*, The World's Most International Universities 2017

twitter.com/applyedinburgh
facebook.com/applyedinburgh
youtube.com/edinburghuniversity
instagram.com/applyedinburgh

Taught masters programmes

Our taught masters programmes are designed to deepen knowledge in a subject you will typically have studied at undergraduate level, although they can also offer a new direction in your academic career.

MSc and Diploma
Our taught Master of Science (MSc) programmes last 12 months, consisting of two semesters of taught courses followed by an individual supervised research project. An alternative option is the Postgraduate Diploma (PgDip), which lasts nine months from September to May, consisting of the taught courses only.

Online learning
We are one of the largest providers of online postgraduate programmes in the UK's Russell Group. Just like our on-campus provision, all our online masters are delivered by dedicated academics, many of whom are leaders in their field. You can study part-time towards a Postgraduate Certificate (PgCert), Postgraduate Diploma, MSc or Postgraduate Professional Development (PgProfDev), and the timescales are flexible – you can complete the MSc in two years or take up to six years. You can also take individual courses for Continuing Professional Development (CPD) purposes. Online learning is an extremely flexible option for students looking to balance further study with professional or family commitments.

See also…
You may also be interested in taught masters programmes offered elsewhere in the University, particularly by the College of Medicine & Veterinary Medicine or the Schools of Chemistry, Informatics, or Engineering.

www.ed.ac.uk/studying/prospectus-request

www.ed.ac.uk/pg/763

Animal Breeding & Genetics

MSc 1 yr FT (2 yrs PT available for UK/EU students)
PgDip 9 mths FT

Programme description
The revolution in genetic mapping technology and the advent of whole genome sequences have turned quantitative genetics into one of the fastest growing areas of biology.

Based in the internationally renowned Institute of Evolutionary Biology, this MSc draws from the wealth of expertise available there, as well as the teaching, research expertise and facilities of Scotland's Rural College, the University's Centre for Genomics and Experimental Medicine, the Medical Research Council's Human Genetics Unit and the Roslin Institute (birthplace of Dolly the sheep).

Each year the syllabus is fine-tuned to suit current issues in evolutionary, plant, human and animal genetics. This programme forms part of the quantitative genetics and genome analysis suite of programmes (see page 8), which includes the specialist routes Human Complex Trait Genetics and Evolutionary Genetics.

Programme structure
This programme consists of two semesters of taught courses followed by a research project, leading to a dissertation. Courses are taught via lectures, tutorials, seminars and computer practicals. Assessment is by written examinations, in-course assignments and project work.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Animal Genetic Improvement; *Dissertation*; *Genetic Interpretation*; *Linkage and Association in Genome Analysis*; *Population and Quantitative Genetics*; *Quantitative Genetic Models; Research Proposal*; *Statistics and Data Analysis*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Introduction to Bioinformatics for Life Scientists; *Evolutionary Quantitative Genetics*; *Functional Genomic Technologies; Genetics of Human Complex Traits*; *Molecular Evolution*; *Molecular Phylogenetics*.

Career opportunities
You will develop the in-depth knowledge and specialised skills required to apply quantitative genetics theory to practical problems, in both the biomedical and animal science industries, and to undertake research in evolutionary genetics, population genetics and genome analysis.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological or biomedical sciences, medicine, agriculture or animal sciences, or a degree in mathematics, statistics, or physics from applicants intending to transfer into the biological sciences. We will also consider your application if you have less than the minimum qualification but can show sufficient additional relevant experience such as significant work history in a related discipline. Your application must show evidence of an interest in genetics alongside quantitative skills.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Sara Knott
Tel +44 (0)131 650 5513
Email qgen@ed.ac.uk

www.ed.ac.uk/pg/856

Biochemistry

MSc 1 yr FT
PgDip 9 mths FT

Programme description
This programme offers you an academically challenging and career-developing study of biological systems at the molecular and cellular level. Biochemistry is fundamental to most areas of life science; it has a major impact on modern medical research and is essential in the pharmaceutical, nutrition, forensic, bioengineering, agricultural and environmental industries. The programme is designed to produce highly skilled and motivated biochemists who are suitable for employment in the life sciences or for further academic research. You will be taught to apply chemical and physical principles to biological molecules in complex living systems in order to expand your understanding of the molecular basis of the processes which take place within these organisms. Through a combination of taught courses, practical skills training and laboratory-based research, you will explore the structures, dynamics, interactions and metabolic pathways of biological molecules, from small molecules to large macromolecular complexes.

Programme structure
Teaching and learning activities include lectures, tutorials, workshops, presentations, laboratory work, practical skills training, a research project, literature and database searching, discussion groups and project groups and seminars.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Biochemistry A and *B*; *Biophysical Chemistry*; *MSc Project & Dissertation*; *Practical Skills in Biochemistry A* and *B*; *Research Project Proposal*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE :

Applicable Mathematics; *Applications of Synthetic Biology*; *Introduction to Bioinformatics for Life Scientists; Biomacromolecules*; *Commercial Aspects of Drug Discovery*; *Detailed Characterisation of Drug or Ligand Interactions using SPR*; *Drug Discovery*; *Economics and Innovation in the Biotechnology Industry*; *Functional Genomic Technologies*; *Information Processing in Biological Cells*; *Molecular Modelling and Database Mining*; *Preparative Methods for Structural Biology*; *Programming for the Life Sciences; Protein Structure Determination; Quantitating Drug Binding*; *Tools for Synthetic Biology*; *Vaccines and Molecular Therapies*.

Research
Students progressing to MSc level will carry out their own research project at the forefront of knowledge and can make a genuine contribution to the progress of original research. This also involves reviewing relevant papers, analysing data, writing a dissertation and giving a presentation.

Career opportunities
You will enhance your career prospects by acquiring knowledge of contemporary biochemistry from world experts in the field, by being trained in advanced analytical and presentation skills, and by having independent research experience in a modern, world-class laboratory.

Entry requirements
A UK 2:1 honours degree or its international equivalent (**www.ed.ac.uk/international/graduate-entry**) in biochemistry, biological sciences (with some relevant chemistry components) or chemistry (with some relevant biology components).

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Janice Bramham
Tel +44 (0)131 650 4786
Email mscbiochemistry@ed.ac.uk

www.ed.ac.uk/pg/1

Biodiversity & Taxonomy of Plants

MSc 1 yr FT
PgDip 9 mths FT

Programme description
The understanding of plant diversity and resources has never been more important. As we face the unprecedented challenges of climate change and environmental degradation, effective environmental surveillance and conservation depend upon detailed knowledge of plants and their habitats.

This programme is run jointly by the University and the world-renowned Royal Botanic Garden Edinburgh (RBGE), which is home to one of the world's largest living collections of plants (15,000 species across four sites, amounting to five per cent of known world species), a herbarium of three million preserved specimens and one of the UK's most comprehensive botanical libraries.

RBGE offers collections-based biodiversity research opportunities across a wide spectrum of organisms and geographical regions. This diversity, coupled with RBGE's world-leading research in different continents, provides an unrivalled masters programme in plant biodiversity.

Programme structure
This programme is full time and consists of two semesters of lectures, practicals, workshops and investigations, followed by a four-month research project. The programme includes a two-week field course in a tropical country (recently Belize). The programme is delivered mainly at RBGE but also at the University's King's Buildings campus. There are no option elements to the programme – all courses are compulsory.

COURSES PREVIOUSLY OFFERED INCLUDE:

Biodiversity of Angiosperms; *Biodiversity of Cryptogams and Fungi; Conservation and Sustainability*; *Dissertation; Evolution of Angiosperms*; *Evolution of Cryptogams and Fungi*; *Phylogenetics and Population Genetics*; *Plant Geography*; *Taxonomy and Plant Collections*; *Tropical Biodiversity Field Course*.

Research
Your research project will be chosen in consultation with your supervisor, and will link directly with active research programmes at RBGE or other research institutions. The field trip, together with training and a short practical exam, qualifies you for the RBGE Certificate in Practical Field Botany.

Career opportunities
The programme is good preparation for roles in taxonomy, while many graduates have also continued to PhD or other research roles at universities internationally. Recent graduates have entered a wide variety of jobs, including ecologist, plant scientist, plant surveyor, environmental officer and plant health inspector, for research institutions, conservation agencies and other employers, such as Kew Gardens, the Royal Botanic Garden Edinburgh, Corrour Estate and Scottish Natural Heritage.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological or environmental science. Relevant work experience is desirable.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Directors Dr Andrew Hudson and Dr Louis Ronse de Craene
Tel +44 (0)131 651 7052
Email btpmsc@ed.ac.uk

www.ed.ac.uk/pg/2

Bioinformatics

MSc 1 yr FT
PgDip 9 mths FT

Programme description
Bioinformatics is about the application of computer-based approaches to understanding biological processes. Our programme will introduce you to the current methods used to interpret the vast amounts of data generated by modern high-throughput technologies.

The aim of this MSc is to equip you with a strong background in biology, and the computing skills and knowledge necessary to navigate the vast wealth of modern biological data. On completing this programme you will be able to take up PhD studies or bioinformatics posts in academia or in industry. The programme covers programming skills, statistical analysis and database science as well as bioinformatics. Option courses allow you to specialise in several aspects of bioinformatics.

Programme structure
The MSc comprises two semesters of taught courses followed by a research project and dissertation. The project is a key element in deciding how your career in bioinformatics should develop further. Teaching is through lectures, tutorials, seminars, computer practicals and lab demonstrations.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Bioinformatics Programming & System Management; *Bioinformatics Research Proposal*; *MSc Dissertation (Bioinformatics)*; *Statistics & Data Analysis*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Bioinformatics 1; *Bioinformatics 2*; *Bioinformatics Algorithms*; *Comparative and Evolutionary Genomics; Drug Discovery*; *Functional Genomic Technologies*; *Human-Computer Interaction*; *Information Processing in Biological Cells*; *Introduction to Java Programming; Introduction to Website and Database Design for Drug Discovery*; *Molecular Modelling and Database Mining*; *Molecular Phylogenetics*; *Next Generation Genomics; Practical Systems Biology*; *Quantitating Drug Binding*; *Software Architecture, Process and Management*; *Software Development*.

Research
The research project is carried out independently, but under the guidance of a supervisor, during the summer, with results presented in a dissertation. A wide range of projects is available through both the School of Biological Sciences and the School of Informatics.

Career opportunities
The programme is good preparation for further academic research or for technical or managerial roles in various commercial sectors, including medical electronics, life sciences and defence. Recent graduates are now working as bioinformaticians, software developers, data analysts and system testers.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological sciences. You must have a strong background in molecular biology, biochemistry or related sciences and some experience of computer science or mathematics. We will also consider your application if you have a background in chemistry, physics, mathematics or engineering.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Simon Tomlinson
Tel +44 (0)131 651 9554
Email bioinfmsc@ed.ac.uk

www.ed.ac.uk/pg/676

Biotechnology

MSc 1 yr FT
PgDip 9 mths FT

Programme description
Changing demographics and growing demand for food, fuel and agricultural and environmental sustainability are among the key challenges the world faces today.

In this MSc you will learn research and development skills to enable the creation of new products and services. You will investigate the economic basis for current biotechnology structures and areas of future demand, including the global pharmaceutical industry and carbon sequestration. You will learn how technology can be applied to solve pressing real-world biological problems and gain the skills and expertise needed for future developments in biotechnology.

Programme structure
This programme consists of two semesters of taught courses followed by a research project or industrial placement, leading to a dissertation.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Economics and Innovation in the Biotechnology Industry; *Intelligent Agriculture*; *Research Project Proposal*; *Research Project* or an *Industrial Placement*.

In addition, you will take either *Principles of Industrial Biotechnology* or *Metagenomic Analysis of Microbial Communities*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Applications of Synthetic Biology; Biobusiness; *Biochemistry A* and *B*; *Biodesign; Introduction to Bioinformatics for Life Scientists*; *Bioinformatics Programming & System Management*; *Commercial Aspects of Drug Discovery*; *Drug Discovery*; *Enzymology and Biological Production*; *Gene Expression and Microbial Regulation*; *Industry & Entrepreneurship in Biotechnology*; *Molecular Modelling and Database Mining*; *Origins of Synthetic Biology; Practical Skills in Biochemistry A* and *B; Programming for the Life Sciences; Social Dimensions of Systems and Synthetic Biology*; *Stem Cells and Regenerative Medicine*; *Tools for Synthetic Biology; Vaccines and Molecular Therapies*.

Research and laboratory work
There will be a considerable practical element to the programme. You will work in a biotechnology laboratory and learn how experimental technology is designed and operated.

Career opportunities
The programme will open up a wide variety of career opportunities, ranging from sales and marketing, to research and development, to manufacturing and quality control and assurance. Recent graduates have found work as biologists, development scientists and researchers for employers including Renishaw Diagnostics, Aridhia Informatics, the Ministry of Food, Agriculture and Livestock, and universities internationally.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biotechnology, biochemistry, molecular biology, genetics, plant sciences or related sciences.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Andrew Free
Tel +44 (0)131 650 5338
Email biotechmsc@ed.ac.uk

www.ed.ac.uk/pg/3

Drug Discovery & Translational Biology

MSc 1 yr FT
PgDip 9 mths FT

Programme description
The rapid transformation in the nature of drug discovery means that knowledge of related disciplines, and the technologies used, is essential for those considering a career in commercial or academic research. This MSc will help you explore the latest methods of developing drugs and therapeutic compounds for humans and animals and disease control agents for plants. You will learn about marketing, licensing and regulations, which are all part of the development process.

Our multidisciplinary approach links structural biology, bioinformatics, chemistry and pharmacology. You will investigate the fundamental scientific problems and techniques of drug discovery and design, alongside the challenges of developing principles for new therapeutic strategies. You will have hands-on experience of crystallographic computer programming and computation for bioinformatics. You will consider the moral and ethical aspects of the agrochemical and pharmaceutical industries through case studies, seminars and discussions.

Programme structure
This programme consists of two semesters of taught courses followed by a research project, leading to a dissertation.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Applicable Mathematics; *Commercial Aspects of Drug Discovery*; *Dissertation*; *Drug Discovery; Molecular Modelling and Database Mining*; *Preparative Methods for Structural Biology*; *Project Proposal and Literature Review*; *Protein Structure Determination*; *Quantitating Drug Binding*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Biobusiness; Biochemistry A and *B*; *Bioinformatics 1*; *Bioinformatics 2; Bioinformatics Algorithms*; *Bioinformatics Programming & System Management*; *Biophysical Chemistry for MSc Biochemistry*; *Chemical Medicine*; *Detailed Characterisation of Drug or Ligand Interactions Using Surface Plasmon Resonance (SPR)*; *Functional Genomic Technologies*; *Information Processing in Biological Cells*; *Introduction to Scientific Programming*; *Introduction to Website and Database Design for Drug Discovery*; *Practical Skills in Biochemistry A* and *B*; *Preparative Methods for Structural Biology Laboratory Experience; Protein Molecular Modelling Practical Skills*; *Tools for Synthetic Biology*.

Career opportunities
This MSc is designed to help you pursue a career in the pharmaceutical industry or relevant government agencies, and it will provide a good background for managerial or technical roles in research, design and development. It is also a solid basis from which to continue your studies to PhD level. Recent graduates have found roles in healthcare, research and new drug screening, for a range of pharmaceutical companies.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biochemistry, molecular biology, biophysics or pharmacology. We will also consider your application if you have a background in chemistry, physics or computer science. We may consider your application if you have a background in another science or medicine; please contact us to check before you apply.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Paul Taylor
Tel +44 (0)131 651 7052
Email drugdiscovery@ed.ac.uk

www.ed.ac.uk/pg/764

Evolutionary Genetics

MSc 1 yr FT (2 yrs PT available for UK/EU students)
PgDip 9 mths FT

Programme description
The revolution in genetic mapping technology and the advent of whole genome sequences have turned quantitative genetics into one of the fastest growing areas of biology.

Based in the internationally renowned Institute of Evolutionary Biology, this MSc draws from the wealth of expertise available there, as well as the teaching, research expertise and facilities of Scotland's Rural College, the University's Centre for Molecular Medicine, the Medical Research Council's Human Genetics Unit and the Roslin Institute (birthplace of Dolly the sheep).

Each year the syllabus is fine-tuned to suit current issues in evolutionary, plant, human and animal genetics. This programme forms part of the quantitative genetics and genome analysis suite of programmes (see page 8), which includes the specialist routes Animal Breeding & Genetics, and Human Complex Trait Genetics.

Programme structure
This programme consists of two semesters of taught courses followed by a research project, leading to a dissertation. Courses are taught via lectures, tutorials, seminars and computer practicals. Assessment is by written examinations, in-course assignments and project work.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Dissertation; *Genetic Interpretation*; *Linkage and Association in Genome Analysis*; *Population and Quantitative Genetics*; *Research Proposal*; *Statistics and Data Analysis*.

In addition, you will take either *Evolutionary Quantitative Genetics*, or *Molecular Evolution* and *Molecular Phylogenetics*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Animal Genetic Improvement; *Introduction to Bioinformatics for Life Scientists*; *Functional Genomic Technologies*; *Genetics of Human Complex Traits*; *Quantitative Genetic Models*.

Career opportunities
You will develop the in-depth knowledge and specialised skills required to apply quantitative genetics theory to practical problems, in both the biomedical and animal science industries, and to undertake research in evolutionary genetics, population genetics and genome analysis.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological or biomedical sciences, medicine, agriculture, or animal sciences, or a degree in mathematics, statistics, or physics from applicants intending to transfer into the biological sciences. We will also consider your application if you have less than the minimum qualification but can show sufficient additional relevant experience such as significant work history in a related discipline. Your application must show evidence of an interest in genetics alongside quantitative skills.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Jacob Moorad
Tel +44 (0)131 650 5513
Email qgen@ed.ac.uk

Taught masters programmes

www.ed.ac.uk/pg/765

Human Complex Trait Genetics

MSc 1 yr FT (2 yrs PT available for UK/EU students)
PgDip 9 mths FT

Programme description
The revolution in genetic mapping technology and the advent of whole genome sequences have turned quantitative genetics into one of the fastest growing areas of biology.

Based in the internationally renowned Institute of Evolutionary Biology, this MSc draws from the wealth of expertise available there, as well as the teaching, research expertise and facilities of Scotland's Rural College, the University's Centre for Molecular Medicine, the Medical Research Council's Human Genetics Unit and the Roslin Institute (birthplace of Dolly the sheep).

Each year the syllabus is fine-tuned to suit current issues in evolutionary, plant, human and animal genetics. This programme forms part of the quantitative genetics and genome analysis suite of programmes (see right), which includes the specialist routes Animal Breeding & Genetics and Evolutionary Genetics.

Programme structure
This programme consists of two semesters of taught courses followed by a research project, leading to a dissertation. Courses are taught via lectures, tutorials, seminars and computer practicals. Assessment is by written examinations, in-course assignments and project work.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Dissertation; *Genetic Interpretation*; *Genetics of Human Complex Traits*; *Linkage and Association in Genome Analysis*; *Population and Quantitative Genetics*; *Quantitative Genetic Models; Research Project Proposal; Statistics and Data Analysis*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Animal Genetic Improvement; *Introduction to Bioinformatics for Life Scientists*; *Evolutionary Quantitative Genetics*; *Functional Genomic Technologies*; *Molecular Evolution*; *Molecular Phylogenetics*.

Career opportunities
You will develop the in-depth knowledge and specialised skills required to apply quantitative genetics theory to practical problems, in both the biomedical and animal science industries, and to undertake research in evolutionary genetics, population genetics and genome analysis.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological or biomedical sciences, medicine, agriculture, or animal sciences, or a degree in mathematics, statistics, or physics from applicants intending to transfer into the biological sciences. We will also consider your application if you have less than the minimum qualification but can show sufficient additional relevant experience such as significant work history in a related discipline. Your application must show evidence of an interest in genetics alongside quantitative skills.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Jacob Moorad
Tel +44 (0)131 650 5513
Email qgen@ed.ac.uk

www.ed.ac.uk/pg/6

Quantitative Genetics & Genome Analysis

MSc 1 yr FT (2 yrs PT available for UK/EU students)
PgDip 9 mths FT

Programme description
The revolution in genetic mapping technology and the advent of whole genome sequences have turned quantitative genetics into one of the fastest growing areas of biology. This MSc is one of a suite of programmes offering specialist routes in genetics. The other programmes are Animal Breeding & Genetics, Evolutionary Genetics, and Human Complex Trait Genetics.

Based in the internationally renowned Institute of Evolutionary Biology, this MSc draws from the wealth of expertise available there, as well as the teaching, research expertise and facilities of Scotland's Rural College, the University's Centre for Molecular Medicine, the Medical Research Council's Human Genetics Unit and the Roslin Institute (birthplace of Dolly the sheep).

Each year the syllabus is fine-tuned to suit current issues in evolutionary, plant, human and animal genetics. Applicants who wish to select their area of specialisation during the programme should apply for this umbrella programme.

Programme structure
This programme consists of two semesters of taught courses followed by a research project, leading to a dissertation.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Dissertation; *Genetic Interpretation*; *Linkage and Association in Genome Analysis*; *Population and Quantitative Genetics*; *Research Proposal*; *Statistics and Data Analysis*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Selected according to specialisation: *Animal Genetic Improvement*; *Introduction to Bioinformatics for Life Scientists; Evolutionary Quantitative Genetics; Functional Genomic Technologies*; *Genetics of Human Complex Traits*; *Molecular Evolution*; *Molecular Phylogenetics; Quantitative Genetic Models*.

Career opportunities
You will develop the in-depth knowledge and specialised skills required to apply quantitative genetics theory to practical problems, in both the biomedical and animal science industries, and to undertake research in evolutionary genetics, population genetics and genome analysis. Recent graduates have taken on roles as geneticists, DNA analysts, data analysts and researchers.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biological or biomedical sciences, medicine, agriculture or animal sciences, or a degree in mathematics, statistics, or physics from applicants intending to transfer into the biological sciences. We will also consider your application if you have less than the minimum qualification but can show sufficient additional relevant experience such as significant work history in a related discipline. Your application must show evidence of an interest in genetics alongside quantitative skills.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Jacob Moorad
Tel +44 (0)131 650 5513
Email qgen@ed.ac.uk

www.ed.ac.uk/pg/857

Synthetic Biology & Biotechnology

MSc 1 yr FT
PgDip 9 mths FT

Programme description
This academically challenging and career-developing programme focuses on research and development using biological and chemical principles and systems to create new products, services and industries. You will employ elements of the developing field of synthetic biology to bring about significant changes and major innovations that address the challenges of rapidly changing human demographics, resource shortages, energy economy transition and the concomitant growth in demand for more and healthier food, sustainable fuel cycles, and a cleaner environment.

Programme structure
You will learn through a variety of activities, including lectures, workshops, presentations, laboratory work, field work, tutorials, seminars, discussion groups, project groups and problem-based learning activities. You will also attend problem-based tutorial sessions and one-to-one meetings. You will carry out research at the frontier of knowledge and make a genuine contribution to the progress of original research. This involves project work in a research laboratory, reviewing relevant papers, analysing data, writing reports and giving presentations.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Applications of Synthetic Biology; *MSc Project and Dissertation*; *Research Project Proposal*; *Social Dimensions of Systems & Synthetic Biology*; *Tools for Synthetic Biology*.

In addition, you will take one of *Principles of Industrial Biotechnology*; *Metagenomic Analysis of Microbial Communities*; or *Practical Skills in Biochemistry A*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

BioBusiness; *Biochemistry A* and *B*; *Biodesign*; *Bioinformatics 1*; *Bioinformatics Programming & System Management*; *Biophysical Chemistry*; *Commercial Aspects of Drug Discovery*; *Comparative & Evolutionary Genomics*; *Drug Discovery*; *Economics & Innovation in the Biotechnology Industry*; *Enzymology & Biological Production*; *Functional Genomic Technologies*; *Gene Expression & Microbial Regulation*; *Industry & Entrepreneurship*; *Information Processing in Biological Cells*; *Introduction to Scientific Programming*; *Molecular Modelling & Database Mining*; *Next Generation Genomics*; *Practical Skills in Biochemistry B*; *Practical Systems Biology*; *Stem Cells & Regenerative Medicine*; *The Origins of Synthetic Biology; Programming for the Life Sciences*.

Career opportunities
You will enhance your career prospects by acquiring current, marketable knowledge and developing advanced analytical and presentational skills, within the social and intellectual sphere of a leading international university. The School of Biological Sciences offers a research-rich environment in which you can develop as a scientist and entrepreneur.

Entry requirements
A UK 2:1 honours degree or its international equivalent (**www.ed.ac.uk/international/graduate-entry**). You should have a strong background in one or more of the following areas: biotechnology, biochemistry, molecular biology and the related sciences. We may also consider your application if you have a background in engineering (particularly bioengineering), physics or mathematics.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Louise Horsfall
Tel +44 (0)131 650 5513
Email mscsyntheticbiotech@ed.ac.uk

www.ed.ac.uk/pg/649

Systems & Synthetic Biology

MSc 1 yr FT
PgDip 9 mths FT

Programme description
We offer an opportunity to train in one of the newest areas of biology: the application of engineering principles to the understanding and design of biological networks. This new approach promises solutions to some of today's most pressing challenges in environmental protection, human health and energy production.

This MSc will provide you with a thorough knowledge of the primary design principles and biotechnology tools being developed in systems and synthetic biology, ranging from understanding genome-wide data to designing and synthesising BioBricks. You will learn quantitative methods of modelling and data analysis to inform and design new hypotheses based on experimental data. The University's SynthSys centre is a hub for world-leading research in both systems and synthetic biology.

Programme structure
The programme consists of two semesters of taught courses followed by a research project and dissertation, which can be either modelling-based or laboratory-based.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:

Dissertation; *Practical Systems Biology*; *Social Dimensions of Systems and Synthetic Biology*; *Tools for Synthetic Biology*.

In addition, you will take either *Applications of Synthetic Biology* or *Information Processing in Biological Cells*.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:

Biobusiness; *Biochemistry A*; *Biodesign*; *Bioinformatics Algorithms*; *Bioinformatics Programming & System Management*; *Biological Physics*; *Computational Cognitive Neuroscience*; *Drug Discovery*; *Economics & Innovation in the Biotechnology Industry*; *Metagenomic Analysis of Microbial Communities*; *Functional Genomic Technologies*; *Gene Expression & Microbial Regulation*; *Industry & Entrepreneurship in Biotechnology*; *Introduction to Scientific Programming*; *Mathematical Biology*; *Molecular Phylogenetics*; *Neural Computation*; *Next Generation Genomics*; *Practical Skills in Biochemistry A; Probabilistic Modelling and Reasoning*; *Statistics and Data Analysis*; *Stem Cells & Regenerative Medicine*.

Career opportunities
The programme is designed to give you a good basis for managerial or technical roles in the pharmaceutical and biotech industries. It will also prepare you for entry into a PhD programme.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), with a strong background in one or more of the following areas: bioinformatics, computer sciences and modelling, molecular biology and related sciences, engineering or biotechnology. We may also consider your application if you have a background in physics or mathematics.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Professor Peter Swain
Tel +44 (0)131 650 5513
Email mscssb@ed.ac.uk

Online learning

www.ed.ac.uk/pg/834

Online learning

Drug Discovery & Protein Biotechnology

MSc 2-6 yrs PT
PgDip/PgProfDev 2-4 yrs PT
PgCert 1-2 yrs PT
CPD options

Programme description
The modern pharmaceutical industry encompasses the development of 'biologics' (for example, antibodies or protein hormones), as much as it does traditional, small-molecule drug discovery.

You will study the design and potential uses of different families of proteins and will examine the experiences of successful entrepreneurs in the field who have been involved in the commercialisation of biopharmaceuticals. Your research project will focus on the early phases of an industrial biologics design programme.

Programme structure
You will learn through a variety of teaching methods, including online tuition, peer-to-peer discussion and individual study. You will take six taught courses, which will be a mixture of compulsory and option courses, followed by a research project leading to a dissertation in your final year.

Individual courses can be taken for Continuing Professional Development (CPD) purposes or you can study for a Postgraduate Certificate (PgCert), Postgraduate Diploma (PgDip) or MSc. The standard MSc duration is three years but we also offer a fast track two-year option depending on your eligibility at the end of Year 1. Alternatively, you can spread your programme over a maximum of six years, through intermittent study, allowing you to accommodate work and other commitments. You can expect to spend seven to 13 hours a week on your studies, depending on your chosen schedule.

COURSES PREVIOUSLY OFFERED INCLUDE:

Chemistry for Drug Discovery; *Commercial Aspects of Drug Discovery*; *Dissertation*; *Druggable Systems*; *High Throughput Drug Discovery*; *In Silico Drug Discovery*; *Introduction to Modelling Biological Systems*; *Measuring Drug Binding*; *Molecular Modelling*; *Professional Skills in Drug Discovery*; *Research Grant Proposal*; *Structure Determination of Drug Target*; *Systems Approach to Modelling Cell Signal Transduction*.

Career opportunities
You will enhance your career prospects with marketable analytical and presentation skills.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biotechnology, biochemistry, chemistry, medicine, molecular biology, pharmacology or related sciences. Other scientific backgrounds are considered on a case-by-case basis. We may also consider your application if you have another scientific background; please contact us to check before you apply.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Paul McLaughlin
Tel +44 (0)131 650 7060
Email mscddpb@ed.ac.uk

www.ed.ac.uk/pg/766

Online learning

Next Generation Drug Discovery

MSc 2-6 yrs PT
PgDip/PgProfDev 2-4 yrs PT
PgCert 1-2 yrs PT
CPD options

Programme description
This online programme will provide you with the stimulus, guidance and knowledge to develop a career around new approaches to drug discovery.

You will study the challenges in developing novel drugs; the science underlying emerging fields of drug discovery; the application of new ideas to the field; how drug discovery relates to real-world health problems; the commercial aspects of drug discovery; and potential future developments. The programme offers a research-rich environment in which you can develop as a scientist and entrepreneur.

Programme structure
You will be taught through a variety of teaching methods, including online tuition, peer-to-peer discussion and individual study. For the MSc, you will take six taught courses – a mixture of compulsory and option courses. In your final year, you will pursue a research project leading to a dissertation.

You can take individual courses for Continuing Professional Development (CPD) purposes or study to qualify for a Postgraduate Certificate (PgCert), Postgraduate Diploma (PgDip) or the MSc. The standard MSc duration is three years but we also offer a fast-track, two-year option depending on your eligibility at the end of Year 1. Alternatively, you can spread your programme over a maximum of six years through intermittent study, allowing you to plan around work and other commitments. You can expect to spend between seven and 13 hours a week on your studies, depending on your chosen schedule.

COURSES PREVIOUSLY OFFERED INCLUDE:

Commercial Aspects of Drug Discovery; *Chemistry for Drug Discovery*; *Druggable Systems*; *Dissertation*; *High Throughput Drug Discovery*; *In Silico Drug Discovery*; *Introduction to Modelling Biological Systems*; *Measuring Drug Binding*; *Modelling Metabolic Pathways*; *Molecular Modelling*; *Professional Skills in Drug Discovery*; *Structure Determination of Drug Targets*; *Systems Approach to Modelling Cell Signal Transduction*.

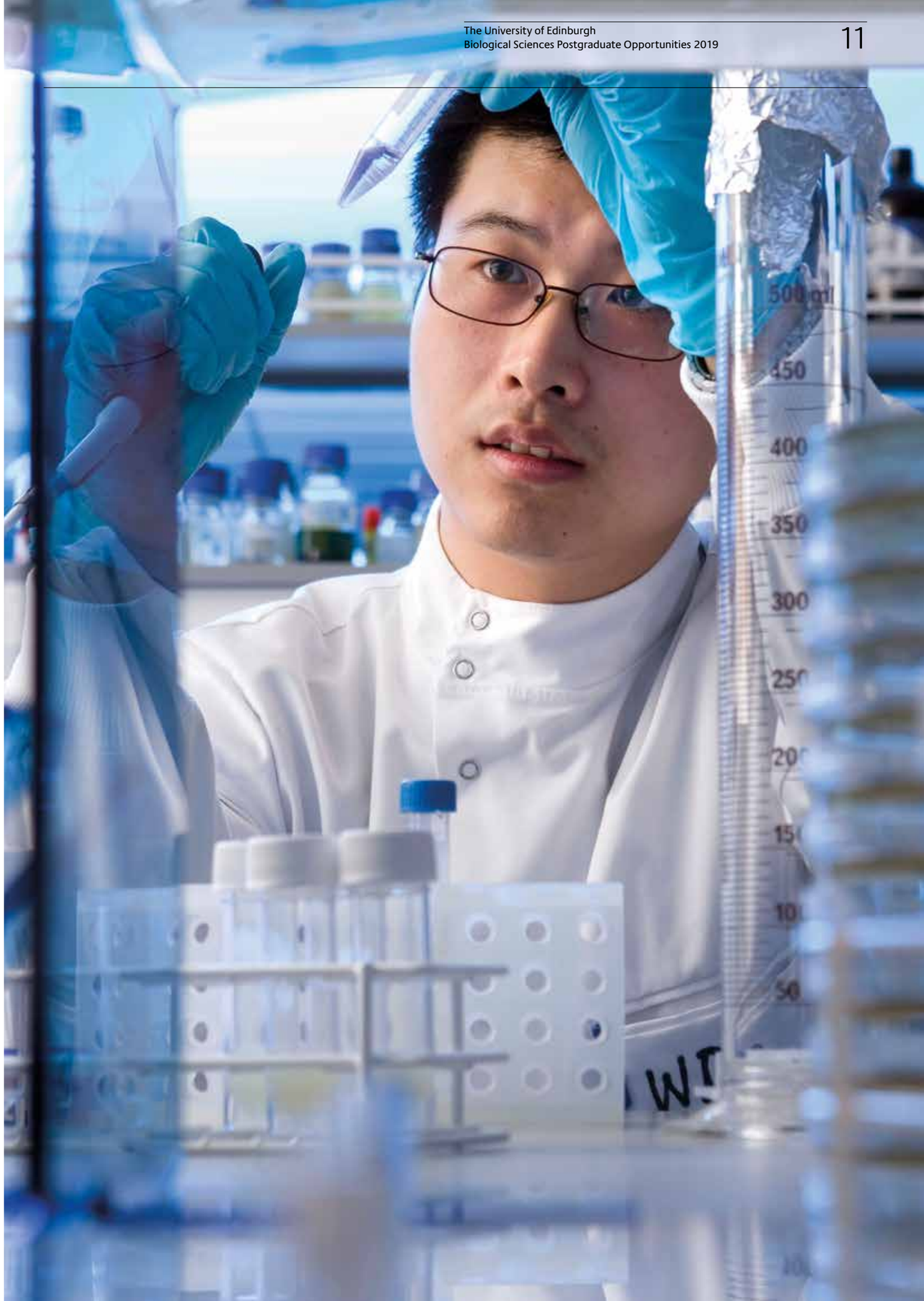
Career opportunities
You will enhance your career prospects with marketable analytical and presentation skills.

Entry requirements
A UK 2:1 honours degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in biotechnology, biochemistry, chemistry, medicine, molecular biology, pharmacology or related sciences.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Paul McLaughlin
Tel +44 (0)131 650 7060
Email mscngdd@ed.ac.uk



Research at the School of Biological Sciences

We're one of the largest and most highly rated centres of our kind in the UK and one of the top 25 worldwide for biological sciences (QS World University Rankings by Subject 2018).

With 91 per cent of our biological sciences research rated either 4* world leading or 3* internationally excellent on the overall quality profile of the Research Excellence Framework (REF) 2014, and with a successful record of research grant applications, we can offer an environment that boasts cutting-edge equipment and facilities to encourage research excellence and innovation. You'll be part of an active Graduate School and will benefit from the support of around 130 principal investigators, many of whom hold independent personal fellowships funded by prestigious bodies. Through our innovative skills database, you'll have access to a broad range of expertise within our comprehensive research areas, the output of which was ranked third in the UK for research quality (*Research Fortnight* REF 2014).

Research routes
Our six discipline-based research institutes cover biology from molecular structure to evolutionary and population biology.

PhD
As a PhD candidate you pursue a research project under continuous guidance, resulting in a thesis that makes an original contribution to the sector. You will gain specialist background knowledge for your intended research and develop the skills to research in that field. You will be required to submit your thesis within four years.

MPhil
The Master of Philosophy (MPhil) resembles a PhD but generally takes two years and does not carry the same requirement for original contribution to knowledge. You'll pursue your individual research project under supervision and submit a thesis.

MSc by Research
An MSc by Research is based on a research project tailored to your interests. It lasts one year full time or two years part time. The project can be a shorter alternative to an MPhil or PhD, or a precursor to either – including the option of an MSc project expanding into MPhil or doctorate work as it evolves.

Entry requirements
A UK 2:1 honours degree, or its international equivalent, in a relevant subject. You should have some research experience and be able to demonstrate that you have a good understanding of the field you propose to study.

High rate of career success
We find the overwhelming majority of our students have an academic career in mind when applying for research programmes. Our latest figures show that 84 per cent of our graduates enter an academic research or teaching career on graduation, and are now establishing themselves in universities and other research institutions worldwide. It's a significant achievement, one that demonstrates the quality of both our research and our standing within the international academic community. We also fully support our students who plan to develop careers outside academia.

THE UNIVERSITY *of* EDINBURGH

Case study: Edinburgh's research with impact

New hope for Rett syndrome sufferers

Rett syndrome is a severe autistic-spectrum disorder with delayed onset that affects one in 10,000 girls, which includes around 16,000 in the US, and an estimated 2,400 here in the UK. This regressive disease causes loss of speech and hand movement, coupled with autistic behaviour, an undersized brain (microencephaly), and growth retardation. A cure or therapy was thought to be most unlikely. However, leading geneticist Professor Sir Adrian Bird from the University's School of Biological Sciences may have found the answer to this devastating disease.

Project background
The syndrome was previously believed to be a developmental or neurodegenerative disease because of its early appearance and the gradual deterioration of those affected. However, leading-edge research led by Professor Bird has presented the very real prospect of a future cure. By developing a genetic mouse model for Rett syndrome that mimics the genetic mutation that causes its symptoms, Professor Bird opened up a new avenue of research. In 2007, Dr Jacky Guy and other scientists in Professor Bird's team introduced a modified MeCP2 gene into Rett model mice, which allowed controlled expression of normal MeCP2 protein – a lack of which had been determined to be the cause of Rett syndrome.

Mutant female mice carrying this modified gene exhibited the characteristics of Rett syndrome until normal MeCP2 expression was activated, after which they rapidly regained normal behaviour. This striking result indicated that the developmental or degenerative changes seen in Rett patients are reversible, and overturned previous understanding of the disease.

Project results
These potentially life-changing findings by the research team at the University have inspired worldwide awareness campaigns, a documentary, and fundraising programmes aimed at supporting further research. They underpin the rationale of multiple clinical trials now under way in both Europe and the US to test both symptom-relieving drugs and gene therapy to combat the underlying cause.

Leading-edge research led by Professor Bird has presented the very real prospect of a future cure.

See more online: www.ed.ac.uk/research/impact

Research opportunities

www.ed.ac.uk/pg/7

Cell Biology

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 environment
The Institute of Cell Biology (ICB), including the Wellcome Trust Centre for Cell Biology and its specialist PhD programme, hosts 38 laboratories carrying out world-class research into fundamental mechanisms relating to cellular function. We apply a wide range of approaches including molecular genetics, cell and structural biology, systems biology approaches and mathematical modelling.

Our research groups comprise one of the largest communities of cell biology researchers in the UK. Many of our staff are Fellows of the Royal Society and acknowledged leaders in their field. Most PhD students who train at the ICB continue with their academic career or join research in the industry, often becoming independent group leaders.

Diversity of interests
We offer a wide scope of projects covering different areas of cell biology, including the synthesis, processing, localisation and degradation of RNA; epigenetic control of gene expression, chromosome function and genome stability; mechanisms of cell growth and duplication; the rules that govern cellular architecture; biotechnology; synthetic biology; and microbial regulation. A variety of courses in microscopy, bioinformatics and proteomics are available to all our PhD students.

Facilities
The ICB provides an exceptional working environment. The Wellcome Trust Centre for Cell Biology is home to the Central Optical Instrumentation Laboratory (COIL), while image analysis at the boundary of biology and physics is provided through the nearby Collaborative Optical Spectroscopy Micromanipulation & Imaging Centre (COSMIC). The ICB is proud of its cutting-edge proteomics facility and automated drug-screening platforms that facilitate discovery of new molecules that impact on cellular functions.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

www.ed.ac.uk/pg/8

Evolutionary Biology

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 environment
As a research student at the Institute of Evolutionary Biology you will join the UK's largest and most dynamic community of researchers in the field. With about 30 research groups, which include about 50 PhD students, you'll benefit from a busy programme of seminars, journal clubs and other research-furthering activities and will be encouraged to publish your findings. You'll also take part in student-led courses and talks.

We have an enviable record in academic career success. Our institute reflects the School-wide figure of 84 per cent for students achieving academic posts after they complete their PhD.

We go beyond the study of animal behaviour to focus on the underpinnings of the science of evolution, down to the level of DNA, to look at just how organisms fundamentally develop as a result of natural selection.

Our current research falls under three broad themes: evolutionary and quantitative genetics, evolutionary ecology and behaviour, and biodiversity and ecology. Researchers are working on everything from viral evolution and host-parasite co-evolution to natural selection in the wild and plant conservation genetics.

Facilities
Topping our list of impressive research tools is Edinburgh Genomics, one of the UK's biggest university-based genomics facilities. Attracting visiting researchers from all over the UK and internationally, this next-generation facility opens up new ways of creating research data. If your study involves bioinformatics, the Ashworth Bioinformatics Support Service provides a vital link with the expertise and facilities on offer through our world-leading School of Informatics.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

www.ed.ac.uk/pg/488

Immunology & Infection Research

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 environment

Immunology and infection research has a proud tradition here at the School of Biological Sciences. As a researcher, you'll be following in the footsteps of Nobel Prize winners – from malaria pioneer Sir Ronald Ross to the 2001 laureate Sir Paul Nurse – and other great names who have made groundbreaking discoveries over the years. Our leadership in infectious disease research has emerged alongside the School's strength in population biology and quantitative genetics; our close association with biologists in these areas can be a valuable asset to your work.

The Institute of Immunology & Infection Research has more than 20 research group leaders, including seven professors. While genetics is a core discipline, our work extends over molecular and cell biology, immunology, evolutionary biology and epidemiology.

Themes

We cover a number of overlapping themes of study. In fundamental immunology, we look at how B and T lymphocytes interact and develop in response to antigen challenge, and how responses are initiated by dendritic cells and dampened by regulatory cells. Helminth, allergy and wound repair models are used to understand immune responses in both practical and evolutionary terms. Immune regulation of disease projects aims to design immunological interventions to ameliorate pathology or to enhance host immunity, in conjunction with new vaccines against parasites and therapies for autoimmunity.

Work on molecular biology and genetics of parasites focuses on the identification of vaccine candidates and virulence factors in malaria parasites, the cell biology of trypanosomes and proteomics and transcriptomics of helminth worm parasites.

In molecular microbiology, we look at how microRNAs regulate immune signalling and how pathogens manipulate these processes. Host-pathogen population biology integrates conventional immunology, pathogen research and systems-level quantitative biology, using mathematical approaches in both experimental models and the epidemiology of human and animal infections.

Facilities

Our institute offers comprehensive facilities, including tissue-culture facilities, state-of-the-art 17-colour flow cytometry and five-dimensional confocal microscopy, as well as equipment such as fast protein liquid chromatography, phosphorimaging and real-time polymerase chain reaction. There is also ready access to molecular technologies such as automated DNA sequencing, DNA arrays and mass spectrometry on the King's Buildings campus.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

"I completed a PhD in Structural Biology at the University of Edinburgh. I originally joined the Walkinshaw group as a bioinformatics PhD candidate but through Professor Walkinshaw's supportive and motivational mentorship took up the exciting challenge of X-ray crystallography, which I continued to investigate through a postdoctoral fellowship at the University of British Columbia, Vancouver, Canada."

Liam Worrall, PhD Structural Biology

www.ed.ac.uk/pg/10

Molecular Plant Sciences

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 environment

With world-class facilities and lively collaborations, our Institute of Molecular Plant Sciences provides you with the ideal environment in which to pursue postgraduate research. We're one of the most active university departments for plant sciences in the UK, hosting one of the country's few plant-based research and teaching institutes. Each of our 15 research groups makes a vital contribution to new discoveries. You'll be able to choose from a broad range of topics, applying multidisciplinary approaches – from computational biology to molecular genetics and cell biology – to subjects ranging from plant growth, development and evolution to plant pathogen interactions and biotechnology.

Broad scope

We offer a wide range of research interests: including biophysics; plant biotechnology; developmental biology; speciation and natural variation (making use of our strong connections with the Royal Botanic Garden Edinburgh); circadian clocks and photobiology; bio-imaging; biochemistry and cell biology; and molecular plant pathology.

Facilities

Substantial investment has been made in ensuring the equipment and facilities you'll use are world class. You'll work in purpose-built laboratories and specialist facilities for plant growth, including a high-throughput Arabidopsis genetics facility, a suite of biochemistry equipment, and controlled environment growth rooms and glasshouses, including a modern category three containment glasshouse. Our strong links with the Centre for Synthetic and Systems Biology, SynthSys, and the Royal Botanic Garden Edinburgh give you access to an even broader range of facilities and expertise.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

www.ed.ac.uk/pg/12

Quantitative Biology, Biochemistry & Biotechnology

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 environment

Closely allied with the Institute of Cell Biology, our group studies the structure and impact of biomolecules, from their atomic structure and assembly into molecular machines, to studying how molecular signals are transduced in animals and plants. We offer a combination of world-class facilities and training that sets us apart as one of the premier centres for this type of research in the UK. You'll be supported by well-published staff who are leaders in their field and will benefit from a comprehensive programme of seminars, symposiums, distinguished visitors and social events.

Finding answers

We investigate molecular structure using techniques such as biomolecular nuclear magnetic resonance, X-ray crystallography, computational structure prediction and cryo-electron microscopy. We also cover the full panoply of methods for protein production and biological characterisation.

Our labs are highly active in deciphering the molecular events that drive growth and development. By combining experimental and mathematical modelling approaches we are able to gain a more holistic 'systems level' understanding of molecular signalling.

A growing area of our research is the development of technologies that combine chemical library generation with proteomics and high-speed imaging methods to allow identification of new ligand-protein interactions. Through links with the College of Medicine & Veterinary Medicine, we aim to make a real impact on healthcare through drug discovery projects.

Facilities

Your work will benefit from our strong links with a number of on-site research centres, including the Wellcome Trust Centre for Cell Biology, SynthSys, the Centre for Synthetic and Systems Biology, the Centre for Science at Extreme Conditions, and the Centre for Translational and Chemical Biology. We offer outstanding laboratories, equipment and training, particularly in the areas of protein production and characterisation, cryo-EM and macromolecular X-ray crystallography, mass-spectrometry, robotised qPCR, real-time bioluminescent imaging and plant phenotyping.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

See also...

Much of our research is interdisciplinary and collaborative. You may find your preferred research area in the prospectus of the College of Medicine & Veterinary Medicine, or those of the Schools of Chemistry, Informatics or Engineering.

www.ed.ac.uk/studying/prospectus-request

www.ed.ac.uk/pg/11

Stem Cell Research

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 environment

Our role in the development of stem cell research began in the early 1990s, with researchers at the former Centre for Genome Research producing the subject's early publications. We grew into the first stem cell research institute in the UK, and this formed the basis of what is now a world-leading centre for multidisciplinary research in mammalian stem cell biology and regenerative medicine. As a PhD student, you'll study in a unique environment, thanks to our location within the MRC-funded Scottish Centre for Regenerative Medicine (SCRM). This unique cross-disciplinary initiative is aimed at studying the properties and behaviour of stem cells to develop new therapies.

Field of focus

Research groups within SCRM cover a diverse range of areas, exploring the possibilities offered by embryonic, fetal and adult tissue stem cells. Each group focuses on a highly specific aspect of research. The themes we address include: the properties of stem cells and their niches; control of stem cell self-renewal and differentiation in vitro and in vivo; the role of stem cells in the ageing process; and the mechanisms underlying tissue degeneration and repair. The Centre's overarching goal is to harness this knowledge to develop new therapies. We attract highly committed and motivated students and reward them with an interdisciplinary research environment that fosters achievement at the highest levels.

Facilities

Since 2011, SCRM has been housed in a spectacular, specially designed building that provides high-quality research facilities, including:

- a state-of-the-art centralised cell culture facility for isolation and culture of primary and established cell lines including embryonic and induced pluripotent stem cells;
- a clinical-grade GMP cell culture facility;
- a Specific Pathogen Free animal facility;
- a transgenic service covering derivation and provision of mouse embryonic stem cells, blastocyst injection, morula aggregation and production of defined genetic alterations;
- ultrasound micro-injection equipment;
- a flow cytometry service consisting of cell sorters, MoFlo, FACS Jazz and FACS Aria II, operated by facility staff and analysers, and the LSR Fortessa and FACS Calibur that can be operated by users following mandatory training;
- histology;
- imaging facilities including standard compound microscopy, confocal, STED super-resolution, high-content and timelapse imaging;
- quantitative real-time polymerase chain reaction capabilities; and
- Fluidigm Biomark and CellPrep for single cell transcriptomics.

Your colleagues will include members of the University's College of Medicine & Veterinary Medicine who can provide a clinical perspective and, as you'll be located a stone's throw from the Royal Infirmary of Edinburgh, you'll also have access to hospital facilities and practising clinicians.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

About the **School of Biological Sciences**

Our School features a vibrant community of staff and students that continues a 400-year history of scientific exploration with innovative work that seeks to shape tomorrow's world.

We are constantly seeking to shed light on the secrets of life through our wide-ranging research. More than half of our research in biological sciences (56 per cent) was rated 4* world-leading in the Research Excellence Framework (REF) 2014 which places us in the UK's top three by research quality (*Research Fortnight* REF 2014) and confirms our position as one of the world's leading biological science research groups.

Through our membership of Scottish Universities Life Sciences Alliance, we work with colleagues in other institutions to maintain the country's world-class research base. Our commitment to pioneering science, supported by a healthy flow of grant funding, helps create an environment where world firsts are possible. For example, the first genetically engineered vaccine against hepatitis B was developed here at the School of Biological Sciences. By joining us you will experience a unique opportunity to examine life processes at the very highest level.

Thriving community

Our School houses about 130 principal investigators, both academic teaching staff and independently funded senior research fellows, about 400 research assistants and technicians and more than 200 PhD students.

Some 90 administrative and technical staff support the School's academic activities.

The School of Biological Sciences has held an Athena Swan Silver Award since 2013 for the advancement of women in science. **www.ecu.ac.uk/equality-charters/athena-swan**

Research institutes

Our world-class research takes place in six research institutes:

- The Institute of Cell Biology
- The Institute of Evolutionary Biology
- The Institute of Immunology and Infection Research
- The Institute of Molecular Plant Sciences
- The Institute for Stem Cell Research
- The Institute of Quantitative Biology, Biochemistry and Biotechnology.

Many of our researchers also participate in one or more of our numerous cross-disciplinary research centres.

Programmes

Postgraduate teaching takes every advantage of our School's expertise to give you outstanding opportunities to study within your chosen field, from programmes taught at the world-famous Royal Botanic Garden Edinburgh to those that develop biofuels and new medicines. Our students can be found discovering how to develop new products for human and animal health, or applying the latest engineering principles to the exploration of biological networks.

Effective outcomes

The School of Biological Sciences continues to make its mark on the future. Entrepreneurial opportunities are supported by Edinburgh Innovations, the University's commercialisation office, with a dedicated business development team embedded in the School. Across the University, Edinburgh Innovations has helped create more than 400 companies during the last 50 years.

Facilities and resources

Whatever tools you need to conduct your research, you'll find the latest at the School of Biological Sciences.

Our Edinburgh Genomics sequencing service plays host to the National Environment Research Council National Sequencing Facility and Medical Research Council Hub Facility.

Advanced microscopy and flow cytometry are two of our major strengths. Our microscopy facilities house state-of-the-art widefield and confocal fluorescence, and transmission and scanning electron microscopes. Our flow cytometry facilities offer cutting-edge analytical and sorting capabilities.

Extensively equipped

We have protein production and biophysical characterisation facilities, including surface plasmon resonance, ITC and spectroscopic equipment. We host more than 1,000m^2 of controlled environment growth space and glasshouse space, and have computing resources for evolutionary biology, including four dedicated computer clusters for phyloinformatics, comparative genomics, population genetics and quantitative trait locus genetics.

Excellent facilities

We are based almost wholly at the University's King's Buildings campus, about 15 minutes by bus from the city centre. You can take advantage of the Noreen and Kenneth Murray Library, named after the pioneers of the first genetically engineered hepatitis B vaccine, as well as the Learning and Teaching Cluster and the social and sports facilities at King's Buildings House. All postgraduate research students are given their own desk space in shared student offices.

Collections of the University

The University of Edinburgh has one of the world's great collections, which has been growing ever since its foundation in 1583. Our collections include rare books, archives and manuscripts, art, historical musical instruments and a wide range of museum objects from geological specimens to anatomical models. If laid out end to end, we would have almost 60 kilometres of shelving and storage space devoted to our heritage material, from 1st-century Greek papyrus fragments to new works of sculpture. This is curated by specialist staff across 45 sites and used for our teaching and research and by the wider public community.

The Centre for Research Collections in the Main Library is the hub for all our collections, where specialist curators make them available for study, research and pleasure. Postgraduate students are welcome to study original objects and have made many important research discoveries while working on the archives. You will find an incredible range of material in our collections that is available nowhere else in the world.

"I was very excited to be able to attend one of the best universities in the world. The programme is intensive and the professors kept us busy. Sometimes I struggled, but I was happy because I gained so much as a student here."

Stamatina Fragkogianni, MSc Bioinformatics

Community

The School forms one of the largest academic groupings of biological scientists in the UK. Whether you are following a taught postgraduate programme or embarking on research, you will be welcomed into a supportive and enthusiastic community of students and staff.

The MSc experience
As an MSc student, there is always something to keep you motivated and inspired – from the University's Festival of Creative Learning to the Edinburgh International Science Festival. Each of our MSc programmes has a dedicated administrator who is there to help you with any queries.

Research support
All postgraduate students are members of our Graduate School, which enjoys an active academic and social calendar. The Graduate School offers you every opportunity to join in – from peer support groups and journal clubs to BioDocSoc, our society run by and for research students and staff.

Inspiring environment
Our environment of shared knowledge and expertise has led to groundbreaking and globally recognised research achievements. Our research institutes provide a forum for development of ideas, collaboration and dissemination of results, along with an environment for training and mentoring research students and early career researchers. BioSkills, a database developed by our own researchers, makes it easy to identify fellow researchers in Edinburgh who can share their skills and expertise with you.

Links and partnerships
Our participation in the work of a wide variety of interdisciplinary research centres reflects the importance we place on the collaborative approach to research. Through these connections, you'll come into contact with researchers from varied academic backgrounds and gain insights into new approaches and techniques. We are linked with:

- Edinburgh Bioinformatics
- The Centre for Translational & Chemical Biology
- Edinburgh Infectious Diseases
- The MRC Centre for Regenerative Medicine
- SynthSys – Centre for Synthetic and Systems Biology
- The Wellcome Trust Centre for Cell Biology
- The Wellcome Trust Centre for Infection, Immunity & Evolution.

Many of our research projects also involve collaborations with Scotland's Rural College, the Royal Botanic Garden Edinburgh and many other academic and commercial organisations.

The School of Biological Sciences is lead partner in the EASTBIO Doctoral Training Partnership, a collaboration between the universities of Aberdeen, Dundee, Edinburgh and St Andrews. Funded by the Biotechnology and Biological Sciences Research Council, EASTBIO awards a minimum of 34 fully funded PhD studentships annually and provides enhanced training to its students.

More information:
www.eastscotbiodtp.ac.uk

The Innovation Forum
Edinburgh hosts a local branch of the Innovation Forum, a global network of researchers and entrepreneurs active at the universities of Cambridge, Oxford, London, Edinburgh, Copenhagen, Lausanne, Barcelona, Hong Kong and Tokyo. This is a student-led initiative seeking to promote innovation by building bridges between academia, industry and government, and linking innovative minds across disciplines.

More information:
www.inno-forum.org

Our research students produce regular podcasts about School news and events. **www.ed.ac.uk/biology/biopod**

Employability and graduate attributes

We offer a research-rich environment in which to develop as a scientist or entrepreneur and you will gain skills that benefit your personal and professional development whichever direction your career takes. The University provides a range of services and opportunities to help you make the most of your time here and the School offers professional internship schemes to MSc and PhD students.

Professional internships
We offer EASTBIO PhD students the opportunity to pursue a professional internship, supported by a Postgraduate Placements Coordinator.

All EASTBIO students spend three months of their PhD programme pursuing a non-academic internship. This is designed to help you develop a broad range of professional skills.

Science communication
There are plenty of opportunities to develop science communication skills. The student-run BioPOD series of podcasts covers stories from across the School – you might find yourself the subject of one, or helping to produce them. Similarly, our Press Gang works with the University's Press Office and the Scottish Initiative for Biotechnology Education to spread the word on the School's pioneering work. Many of our students are part of the EUSci team, publishing a regular science magazine, and there are also opportunities to get involved with the annual Edinburgh International Science Festival.

Institute for Academic Development
All postgraduate students can benefit from our Institute for Academic Development (IAD), which provides information, events and courses to develop the skills you will need throughout your studies and in the future. IAD events also offer the perfect opportunity to meet and network with other postgraduates from across the University.

Further information is available online:
www.ed.ac.uk/iad/postgraduates

For taught postgraduates, IAD provides a popular study-related and transferable skills support programme. It is designed to help you settle into postgraduate life, succeed during your studies and move confidently to the next stage of your career. We offer on-campus and online workshops and one-to-one study skills consultations, plus online advice and learning materials. Workshops and learning resources cover key topics tailored to different academic stages, including: pre-arrival sessions; getting started with your studies; critical reading, writing and thinking; managing your exams; and planning for and writing up your dissertation.

IAD also provides a comprehensive programme of transferable skills training, resources and support for researchers completing a doctorate. The workshop programme is designed to help you successfully prepare for the various milestones of your PhD, from getting started with your research, to writing up and preparing for the viva, as well as developing personal and professional skills that can be transferred to your future employment. Workshops cover topics such as writing skills, reference management tools, statistics, preparing for conferences, delivering presentations, time and project management, and personal development. IAD also offers online resources and planning tools to help get your research started, plus support for tutoring and demonstrating, and research public engagement and communication.

Careers Service
Our Careers Service plays an essential part in your wider student experience at the University, offering a range of tailored careers and personal development guidance and support. We support you to recognise the wealth of possibilities ahead, while at university and after graduation, helping you explore new avenues, tap into your talents and build your employability with confidence and enthusiasm.

We provide specialist support for postgraduate students. From exploring career options to making decisions, from CV writing to interview practice, from Employ.ed internships to graduate posts and from careers fairs to postgraduate alumni events, we will help you prepare for the future.

We sustain and continually develop links with employers from all industries and employment sectors, from the world's top recruiters to small enterprises based here in Edinburgh. Our employer team provides a programme of opportunities for you to meet employers on campus and virtually, and advertises a wide range of part-time and graduate jobs.

More information:
www.ed.ac.uk/careers/postgrad

Platform One
Platform One is an online meeting place where members of the University community, past and present, can gather. It aims to provide a supportive environment where students, alumni, staff and volunteers can share knowledge and experiences. Together, we form a single community that meets on Platform One. Join us and find out more about the people and possibilities.

More information:
www.ed.ac.uk/platform-one

Backing bright ideas
LAUNCH.ed is the University's award-winning programme for student entrepreneurs. Each year, LAUNCH.ed works with hundreds of students to assess their ideas and develop their business skills and helps many start their businesses. We have helped Edinburgh students and alumni launch almost 100 new businesses in the last three years, ranging from language tuition to robotics companies.

More information:
www.LAUNCH.ed.ac.uk

Applications and fees

We have an online application process for all postgraduate programmes. It's a straightforward system with full instructions, including details of any supporting documentation you need to submit.

When applying, you will set up an account, which lets you save your application and continue at another time.

Full guidance on our application system is available at: **www.ed.ac.uk/postgraduate/applying**

General requirements

Our usual entrance requirement for postgraduate study is a UK 2:1 degree, or its international equivalent (**www.ed.ac.uk/international/graduate-entry**), in a subject related to your chosen programme. You will also need to meet the University's language requirements (see below).

Entry requirements for individual programmes can vary, so check the details for the specific programme you wish to apply for.

References

For applications to taught programmes, the normal requirement is one reference, although an additional reference may be requested in individual cases. For applications to research programmes, two references are required. You should check the entry online for exact requirements for your intended programme of study. For general guidance on references, visit: **www.ed.ac.uk/postgraduate/references**

Deadlines

Taught masters applications

Some programmes have application deadlines. Please check the programme entry online for details. For all other programmes, you are encouraged to apply no later than one month prior to entry to ensure there is sufficient time to process your application. However, earlier application is recommended, particularly where there is a high demand for places or when a visa will be required. Should you wish to submit a late application, please contact us for guidance. If you are applying for funding we encourage you to submit your programme application as early as possible, as in most cases you will need a programme offer before you can make your funding application. Most funding deadlines are no later than June.

Research applications

For funded studentships our main application deadline is usually around December. Occasionally funded studentships are advertised later in the academic year. Please check our website (**www.ed.ac.uk/biology/prospective-students**) for full deadline details. We accept applications from students with their own funding all year round.

English language requirements

Students whose first language is not English must show evidence of one of the qualifications below:

- IELTS Academic: total 6.5 (at least 6.0 in each module).
- TOEFL-iBT: total 92 (at least 20 in each module).
- PTE(A): total 61 (at least 56 in each of the Communicative Skills sections).
- CAE and CPE: total 176 (at least 169 in each module).
- Trinity ISE: ISE II (with distinctions in all four components).

Please note:

- English language requirements can be affected by government policy so please ensure you visit our degree finder to check the latest requirements for your programme: **www.ed.ac.uk/postgraduate/degrees**
- Your English language certificate must be no more than three years old at the beginning of your programme, unless you are using an English language test such as IELTS in which case it must be no more than two years old.
- We also accept recent degree-level study that was taught and assessed in English in a majority English-speaking country (as defined by UK Visas & Immigration), or at a university in a non-majority English-speaking country which has specifically been approved by the University of Edinburgh's Admissions Qualifications Group. A list of approved universities is published online. The award date must be no more than three years prior to the start date of the programme.
- We do not require you to take an English language test before you apply.

Abbreviations: IELTS – International English Language Testing System; TOEFL-iBT – Test of English as a Foreign Language Internet-Based Test; PTE(A) – Pearson Test of English (Academic); CPE – Certificate of Proficiency in English; CAE – Certificate in Advanced English; Trinity ISE – Integrated Skills in English.

www.ed.ac.uk/english-requirements/pg

Tuition fees

The following table provides an overview of indicative fee levels for programmes commencing in 2019.

Please note:

- International students starting full-time taught programmes of study lasting more than one year will be charged a fixed annual fee.
- All other students on full-time and part-time programmes of study lasting more than one year should be aware that annual tuition fees are subject to revision and are typically increased by approximately five per cent per annum. This annual increase should be taken into account when you are applying for a programme.
- In addition to tuition fees, your programme may be subject to an application fee and additional costs/programme costs may apply. Please check the latest programme information online.

Asylum seeker tuition fee status and scholarship

Information for applicants seeking asylum from within the United Kingdom, who wish to commence a programme of study at the University in 2019, is available online. This includes our tuition fee rates and scholarship opportunities: **www.ed.ac.uk/student-funding/asylum**

Tuition fees for EU students

EU students enrolling in the 2019/20 academic year will be admitted as Scottish/EU fee status students. Taught masters students will be eligible for the same tuition support as Scottish domiciled students from the Student Awards Agency Scotland (SAAS).

For UK/EU students

	Annual fee
Taught programme 1-year FT	£15,500
Taught programme 2-years PT	£7,750
MSc by Research 1-year FT	£8,300
MSc by Research 2-years PT	£4,150
MPhil 2-years FT	£4,260*
PhD 3-years FT	£4,260*
PhD 6-years PT	£2,130*

Online Learning

	Annual fee
	£18,800

For international students

	Annual fee
Taught programme 1-year FT	£30,700
MSc by Research 1-year FT	£26,600
MPhil 2-years FT	£22,200
PhD 3-years FT	£22,200

* Figure shown is the 2018/19 fee level

All other fees quoted are indicative of 2019/20 fee levels. Because these figures are indicative, it is important you check online before you apply and check the up-to-date fee level that will apply to your specific programme: **www.ed.ac.uk/student-funding/tuition-fees/postgraduate**

Funding

A large number of scholarships, loans and other funding schemes are available for your postgraduate studies. It is only possible to show a small selection in print. To see the full range, please visit: **www.ed.ac.uk/student-funding/postgraduate**

Awards are offered by the School of Biological Sciences, the University of Edinburgh, the Scottish, UK and international governments and many funding bodies.

Here we list a selection of potential sources of financial support for postgraduate students applying to the School of Biological Sciences. This list was correct at the time of printing but please check the full and up to date range online (see above).

Tuition fee discounts

We offer a 10 per cent discount on postgraduate fees for all alumni who have graduated with an undergraduate degree from the University. We also offer a 10 per cent discount for international graduates who spent at least one semester at the University of Edinburgh as a visiting undergraduate: **www.ed.ac.uk/student-funding/discounts**

Key
- ● Taught masters programmes
- ● Masters by Research programmes
- ● Research programmes

Scholarships at the University of Edinburgh

- **Beit Trust** ● ●
  Beit Trust and the University of Edinburgh Scholarships jointly fund postgraduate students from Malawi, Zambia and Zimbabwe to undertake a masters: **www.beittrust.org.uk**
- **China Scholarships Council/University of Edinburgh Scholarships (China)** ●
  A number of scholarships for PhD study to candidates who are citizens and residents of China. Participating schools to be confirmed: **www.ed.ac.uk/student-funding/china-council**
- **Edinburgh Global Masters Scholarships** ● ●
  A number of scholarships are 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 Principal's Career Development Scholarships** ●
  A number of scholarships, open to UK, EU and international PhD students: **www.ed.ac.uk/student-funding/development**
- **Enlightenment Scholarships** ●
  The University is currently developing a new style of PhD scholarship to attract the best PhD applicants from around the world. These scholarships will provide funding for up to four years. For the latest information, and for details on which Schools will be participating, please check: **www.ed.ac.uk/student-funding/enlightenment**
- **Highly Skilled Workforce Scholarships** ●
  A number of scholarships are available to UK nationals permanently domiciled in Scotland, and to EU nationals domiciled either on mainland EU or in Scotland, who have been accepted on an eligible full- or part-time masters programme. The scholarships, which are funded by the Scottish Funding Council and subject to annual confirmation, cover the UK/EU tuition fee. At the time of printing, we are awaiting confirmation of these scholarships from the Scottish Government: **www.ed.ac.uk/student-funding/sfc-hsw**
- **Julius Nyerere Masters Scholarship (Tanzania)** ● ●
  One scholarship is available to citizens of Tanzania who are normally resident in Tanzania who are accepted on a full-time masters programme: **www.ed.ac.uk/student-funding/nyerere**
- **School of Biological Sciences Research Scholarships** ●
  Within the School of Biological Sciences, a number of highly competitive research scholarships are available each year to new postgraduate research students, including funding from BBSRC, EPSRC, NERC, MRC, Wellcome Trust and our School International Scholarships: **www.ed.ac.uk/biology/prospective-students/postgraduate**
- **School of Biological Sciences Taught Postgraduate Bursaries** ●
  The School of Biological Sciences offers a limited number of awards to overseas students joining taught masters programmes: **www.ed.ac.uk/student-funding/biological-bursaries**

Research council awards

Research councils offer awards to masters 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. The UK Government has confirmed that EU postgraduate research students commencing their studies in 2019/20 will retain their fee status and eligibility for research council support for the duration of their programme: **www.ed.ac.uk/student-funding/research-councils**

The University also offers a number of scholarships in partnership with the following overseas government agencies:

- **Chile** ● ● ●
  National Commission for Scientific and Technological Research (CONICYT): **www.conicyt.cl**
- **Colombia** ●
  Administrative Department of Science, Technology and Innovation (Colciencias): **www.colciencias.gov.co**
- **Ecuador** ● ● ●
  Secretaria Nacional de Educacion Superior, Ciencia y Tecnologia (SENESCYT): **www.educacionsuperior.gob.ec**
- **Iraq** ●
  Ministry of Higher Education and Scientific Research: **www.iraqiculturalattache.org.uk**
- **Mexico**
  National Council of Science and Technology of the United Mexican States (CONACYT): ● ● ●
  www.conacyt.mx

  Banco de Mexico and the Banco de Mexico's FIDERH trust (FIDERH): ● ● ●
  www.fiderh.org.mx

  Fundacion Mexicana para la Educacion, la Tecnologia y la Ciencia (FUNED): ● ●
  www.funedmx.org
- **Pakistan** ●
  Higher Education Commission, Pakistan (HEC): **www.hec.gov.pk**

Loans available for study at the University of Edinburgh

The University of Edinburgh is a participating institution in the following loans programmes, meaning we certify your student status and can help with the application process.

- **The Canada Student Loans Program** ● ● ●
  The University is eligible to certify Canadian student loan applications: **www.ed.ac.uk/student-funding/canadian-loans**
- **Erasmus+** ●
  The Erasmus+ Master Loan helps masters students with their living and tuition costs when studying in an Erasmus+ country other than where they live or where they took their first degree. For more information: **https://erasmusplus.org.uk/master-loan**
- **Postgraduate Doctoral Loans England** ●
  Student Finance England offers postgraduate loans for doctoral study, payable to eligible students and divided equally across each year of the doctoral programme: **www.gov.uk/doctoral-loan/eligibility**
- **Postgraduate Doctoral Loans Wales** ●
  Student Finance Wales offers loans for postgraduate doctoral study, payable to eligible students, divided equally across each year of the doctoral programme: **www.studentfinancewales.co.uk/postgraduate-students/postgraduate-doctoral-loan.aspx**
- **Postgraduate Loans (PGL) England** ● ●
  Student Finance England offers postgraduate loans for taught and research masters programmes, payable to eligible students: **www.gov.uk/postgraduate-loan**
- **Postgraduate Loans (PGL) Northern Ireland** ● ●
  Student Finance Northern Ireland offers a tuition fee loan for taught and research programmes, at certificate-, diploma-, and masters-level, which will be paid directly to the University: **www.studentfinanceni.co.uk**
- **Postgraduate Loans (SAAS) Scotland and EU** ● ●
  The Student Awards Agency Scotland offers tuition fee loans for taught diploma and masters programmes which will be paid directly to the University. Full-time students resident in Scotland can also apply for a non-income assessed living cost loan: **www.saas.gov.uk**
- **Postgraduate Loans (PGL) Wales** ● ●
  Student Finance Wales offers eligible students postgraduate loans for taught and research masters programmes: **www.studentfinancewales.co.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**

Other sources of funding

The following are examples of the many scholarships and support schemes available to students from particular countries who meet certain eligibility criteria.

- **Chevening Scholarships** ● ●
  A number of partial and full funding scholarships are available to one-year masters students: **www.chevening.org**
- **Commonwealth Scholarships** ● ● ●
  Scholarships available to students who are resident in any Commonwealth country, other than the UK: **www.dfid.gov.uk/cscuk**
- **Marshall Scholarships (USA)** ● ● ●
  Scholarships available 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 students who are citizens permanently and ordinarily resident in Canada, China, India, Japan, Pakistan and the USA for one year of masters study: **www.ed.ac.uk/student-funding/saltire**

Funding for online learning

The University offers several scholarships specifically for online, part-time postgraduate programmes, including the Edinburgh Global Online Distance Learning Masters Scholarship, for which applicants to many masters programmes can apply: **www.ed.ac.uk/student-funding/e-learning/online-distance**

Campus map

The School of Biological Sciences is on the King's Buildings campus, where our teaching and administration takes place across several buildings. The King's Buildings campus is around two miles from Edinburgh city centre and is well served by buses, including a free University shuttle service during semester time.

Detailed maps can be found at: www.ed.ac.uk/maps

Get in touch

Contact us

For more information about taught MSc programmes, contact:

Sarah Harvey
Biology Teaching Organisation
2105, James Clerk Maxwell Building
King's Buildings
Peter Guthrie Tait Road
Edinburgh, UK
EH9 3FD
Tel +44 (0)131 651 7052
Email **pgtbiol@ed.ac.uk**
www.ed.ac.uk/biology/taught-masters

For enquiries relating to specific programmes, please refer to the contact details provided for each programme listing.

For more information about our postgraduate research programmes, please contact:

Dr Caroline Proctor
Graduate School of Biological Sciences
2.06, Mary Brück Building
King's Buildings
Mayfield Road
Edinburgh, UK
EH9 3DW
Tel +44 (0)131 650 5327
Email **gradbiol@ed.ac.uk**
www.ed.ac.uk/biology/prospective-students

To discuss your PhD proposal, you should identify potential supervisors at: **www.ed.ac.uk/biology/people**

Visit us

The University's Postgraduate Open Day is your opportunity to come and meet current staff and students. Our next campus-based Open Day takes place on 14 November 2018. For more information, visit: **www.ed.ac.uk/postgraduate-open-day**

The School of Biological Sciences welcomes visitors at any time. We can give you a tour of the campus and arrange a meeting with your potential Programme Director. If you are unable to visit, we can arrange a video call.

Our visits to you

If you are unable to visit the University, we attend events worldwide throughout the year so you can meet and speak to us in person.

UK and Europe: **www.ed.ac.uk/postgraduate/uk-eu-events**

International: **www.ed.ac.uk/international/our-visits-overseas**

Chat online

We offer all postgraduate students monthly online information sessions. To find out more and see when the next session will be: **www.ed.ac.uk/postgraduate/online-events**

For international students, Edinburgh Global runs two online chat sessions each month. These are timed to give students in all timezones a chance to get involved. You can find out more and register online: **www.ed.ac.uk/international/chat-to-us-online**

Drawn to
EDINBURGH
by our world-class university

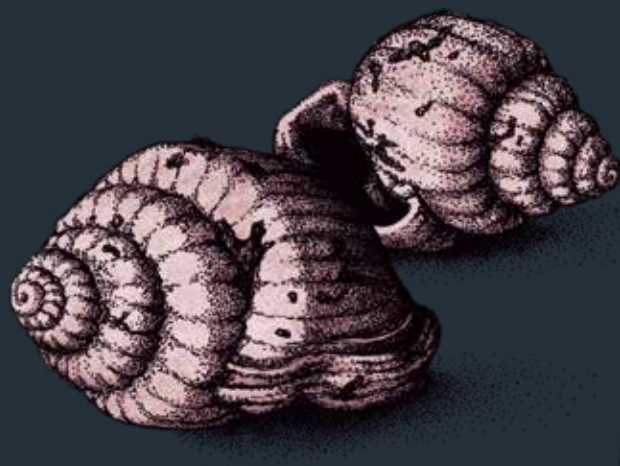
You are in good company. More than 39,500 of the world's brightest minds study here. Learn more at www.ed.ac.uk

Illustration by:
Katy Wiedemann, MA Illustration

The front cover shows seven specimens of land-dwelling gastropod shells. These were collected by Charles Darwin while on St Helena, 8-14 July 1836, during HMS Beagle's return voyage from the Galápagos Islands.

The items in this illustration are part of the University's unique Centre for Research Collections, a rich resource for all our students, staff and the wider community.

#drawntoedinburgh



This publication is available online at **www.ed.ac.uk/postgraduate** and can be made available in alternative formats on request. Please contact communications.office@ed.ac.uk or call +44 (0)131 650 2252.

Printed on Galerie Satin FSC mix, a Forestry Stewardship Council certified paper stock. It was manufactured to ISO 14001 certified environmental management standards, using an elemental chlorine free process. The inks used for printing are vegetable-based and do not contain any harmful volatile organic chemicals.

We have made every effort to ensure the accuracy of the information in this prospectus before going to print. However please check online for the most up-to-date information: **www.ed.ac.uk**

On 23 June 2016 the UK electorate voted in a national referendum to leave the European Union. At the time of going to print, there was no immediate, material change known that would impact on applicants for 2019 entry. However we recommend that you check online for the latest information before you apply: **www.ed.ac.uk/news/eu**

The University's standard terms and conditions will form an essential part of any contract between the University of Edinburgh and any student offered a place here. Our full terms and conditions are available online: **www.ed.ac.uk/student-recruitment/terms-conditions**

Published by:
Communications and Marketing, The University of Edinburgh
Designed by:
RRDCreative
Photography by:
Paul Bock
Paul Dodds
Marketing Edinburgh
Yao Hui
Tricia Malley & Ross Gillespie
Real Edinburgh
Shutterstock
Laurence Winram
Printed by:
Linney Print

THIS IS EDINBURGH

Education UK SCOTLAND
Innovative. Individual. Inspirational.