

Postdoctoral Research Associate (Fixed Term)

Department of Genetics

Reference: PC44565

Closing date: 12th January 2025



Postdoctoral Research Associate (Fixed Term)

Salary:

£36,924-£45,163

Contract:

Fixed term until
30 September 2026 in the
first instance

Location:

Central Cambridge

Faculty / Department:

Department of Genetics

Responsible to:

Professor Richard Durbin

Working pattern:

Full-time

The University of Cambridge has a Hybrid Working Policy that aims to enable as many staff as possible to work in a hybrid way if they so wish, whilst recognising that some roles will include tasks that can only be performed on University premises.

The Department of Genetics is seeking to appoint a postdoctoral Research Associate to start as soon as possible to work with Professor Richard Durbin on the computational genetic analysis of ancient environmental DNA (aeDNA).

This post will contribute to the [Ancient Environmental Genomics Initiative for Sustainability \(AEGIS\)](#) international consortium project funded by the Novo-Nordisk Foundation and the Wellcome Trust. In this project a very wide range of ancient sediment DNA samples from a mixture of agricultural and extreme environments will be sequenced. The resulting aeDNA data will be analysed to help understand genetic and ecological responses to climate change, so as to inform development of more robust agro-ecosystems for the future. The work will involve computational genomics methods development and analysis of large scale but extremely low coverage ancient metagenome data. Specifically, goals include:

- 1) applying and potentially improving methods for efficient processing and taxon assignment of shotgun aeDNA data. One possible opportunity here will be to help construct a new updatable phylogenetically organized sequence index for biodiversity as the number of sequenced genomes increases exponentially.
- 2) for specific taxa of interest, including crops and associated pathogens, building and fitting models of demographic change and selection based on sparse population variation data across time and space, combining aeDNA data with present data genetic diversity.
- 3) identify specific genotypes that have the potential to contribute to ecological robustness, supporting collaboration towards practical translation with AEGIS plugin partners.

The position involves collaborations with University of Copenhagen (Eske Willerslev and colleagues), University of California Berkeley (Rasmus Nielsen group), Wellcome Sanger Institute (Tree of Life programme) and Pasteur Institute (Rayan Chikhi group), among other AEGIS institutions and researchers. Why join us? The position offers the opportunity to advance the genetic study of the past based on new leading-edge data sets, and to contribute to a rising scientific paradigm. You will work with a world-leading team of scientists in a stimulating and supportive environment, with access to state-of-the-art data sets and resources, to address major research questions.

Key responsibilities

Research and Scholarship

- Develop research objectives and proposals for own or joint research;
- conduct individual and collaborative research projects;
- write up research work for presentation and publication;
- continually update knowledge and understanding in field or specialism;
- translate knowledge of advances in the subject areas into research activity;
- manage own research and administrative activities, with guidance if required.
- assist in the preparation of proposals and applications to external bodies, e.g. for funding and contractual purposes;
- communicate material of a specialist or highly technical nature.

Teaching and learning support

- may assist in the supervision of student projects;
- provide limited supervision/instruction to classes;
- may assist in the development of student research skills;
- may plan and deliver seminars relating to research area.

Liaison and networking

- liaise with colleagues and students;
- build internal and external contacts and participate in networks for the exchange of information and to form relationships for future collaboration.

Planning and organising

- plan the use of research resources, laboratories and workshops as appropriate;
- plan and manage own research activity in collaboration with others;
- contribute to planning of joint research projects led by principal investigator.

Person specification

	Essential	Desirable
Education & Qualifications		
Applicants should hold a PhD in computational genomics, bioinformatics, evolutionary genetics or a related field (essential), or minimally should have submitted their thesis and completed their viva prior to starting.	✓	
Specialist knowledge and skills		
Strong analytical skills including those used in large scale DNA sequence analysis	✓	
Population or statistical genetics	✓	
Scientific programming in Python, C or an equivalent language for data analysis methods development	✓	
Proven ability to write and publish academic articles		
Interpersonal and communication skills		
Excellent interpersonal and written communication skills	✓	
Strong collaboration skills	✓	
Confident working independently and with others outside of the primary research group	✓	
Relevant experience		
A proven ability to develop new statistical and/or computational methods for genetic data analysis	✓	
Experience of computational analysis of DNA data at scale in a Unix environment		✓
Experience with ancient environmental DNA analysis and/or metagenomic data		✓



The Department of Genetics is a world-class research and teaching environment with particular strengths in quantitative approaches to genomics, epigenetics, population and evolutionary genetics, cell and developmental biology, and microbial genetics. The Department's core staff consists of 20 different research groups led by Principal Investigators (PIs) in academic or senior research roles. In total there are 22 academic staff, 48 members of research staff, 80 postgraduate students and an excellent team of 36 Professional Support Staff.

The Department has multiple collaborative links with other local institutes, particularly the Gurdon Institute, the Sainsbury lab, and the Cambridge Stem Cell Institute as well as with colleagues at the Biomedical Campus, the Wellcome Trust Sanger Institute and the European Bioinformatics Institute. It participates in a range of University Strategic Research Initiatives including Cambridge Neuroscience, Infection and Immunity, and Reproduction. Members of the Department contribute to several of the School of Biological Sciences Research Themes, including leadership roles in Functional and Evolutionary Genomics, and Reproduction, Development and Lifelong Health (<https://www.bio.cam.ac.uk/research/research-themes>) The Department is fully committed to the University Open Research agenda (<https://osc.cam.ac.uk/open-research/open-research-position-statement>) and strongly supports efforts to increase research reproducibility and transparency

The Department is located on the Downing Site in the centre of Cambridge, with an Evolutionary Genetics Laboratory 3 miles to the west of the city centre. The Department prides itself on the excellence of its research and teaching and has recently undergone major refurbishment providing state-of-the-art analytical and experimental research space, with additional community areas. There is a substantial research programme supported by external funding and a teaching programme covering a wide variety of courses ranging from small group tuition to lectures for 300-400 students.

The Department offers a stimulating, friendly and supportive work environment, we encourage innovation in research, teaching and the way we work. All staff are encouraged to play a full part in the life of the Department through teaching, research, participation in a range of seminars, regular staff

meetings and social gatherings and activities. We also have an active social media presence and encourage all staff to share their achievements.

We have a number of Departmental committees (Strategy, Infrastructure, Safety, Postgraduate Education, Teaching and Equality & Wellbeing) with representatives from different staff groups helping to develop and improve our policies and ways of working. These are supported by smaller working groups such as the Library and IT Working Group and the Professional Support Staff Forum.

When possible, the Department encourages a vibrant social life which includes regular happy hours, various get-togethers throughout the year, and a variety of wellbeing activities. The Department values interactions with the wider community and there are opportunities to contribute to outreach through for example the Annual Science Festival, Library activities, interactions with local schools and many others.

The Athena SWAN Charter was launched in June 2005 to recognise and reward commitment to advancing the careers of women working in higher education in science, technology, engineering, mathematics and medicine (STEMM). Although developed to address the lack of female representation in these subjects, the activities that support the Charter contribute towards a more positive working environment for all.

The Department currently holds Athena Swan Bronze Award status, attained in October 2018. This is supported by ongoing activities; actively encouraging female research staff into group leader positions, instigating dignity at work seminars for all staff, publicising and promoting our outreach and public engagement and promoting equality and wellbeing and family friendly policies (amongst others). The Department is committed to building a respectful working environment and fully supports the University Research Culture Action Plan (<https://www.postdocacademy.cam.ac.uk/research-culture>).

The School of the Biological Sciences



The goal of the School of the Biological Sciences is to deliver education, learning and research at the highest international levels of excellence. Building on our record as a world class University for Biological Sciences we aim to work in innovative ways to achieve ongoing excellence in a supportive and collaborative research and teaching environment.

The research and teaching carried out in the School is diverse and covers animal, human, plant and microbial science from the atomic, molecular and cellular levels through to tissues, organs, whole organisms, populations, ecosystems, biodiversity, and human behaviour. This research has impacts on health and disease across species, agriculture, conservation and the environment as well as on the pharmaceutical and biotechnology industries, with direct translational relevance to the clinic, public services and social policy, and the bio-economy.

The School of the Biological Sciences employs around 2000 staff teaching over 4000 students (split roughly evenly between undergraduates and postgraduates). It consists of nine Departments (Biochemistry; Genetics; Pathology; Pharmacology; Physiology, Development and Neuroscience;

Plant Sciences; Psychology; Veterinary Medicine; Zoology) and four research institutes (Gurdon Institute, Cambridge Stem Cell Institute, Sainsbury Laboratory and the MRC Toxicology Unit) all of which are involved in fundamental biological research alongside undergraduate and postgraduate teaching.

Research in the School is organised in six major Themes, designed to provide integration across the School, encourage new conversations and enhance interdisciplinary networking critical for major innovation:

- Molecules and Cells: The Building Blocks of Life
- Infection and Immunity
- Neuroscience, Psychology and Behaviour
- Functional and Evolutionary Genomics
- Reproduction, Development and Lifelong Health
- Organisms, Evolution and Ecology

The School has teaching responsibilities in four undergraduates triposes: Natural Sciences, Medical Sciences, Veterinary Sciences and Psychological and Behavioural Sciences. It is part of the Graduate School of Life Sciences, which organizes and manages the graduate training and monitoring for Masters and PhD students, along with the Degree Committee.

Terms of appointment

Tenure and probation

Appointments will be made on a fixed-term basis until 30 September 2026 in the first instance.

Appointments will be subject to satisfactory completion of a 6 month probationary period.

Hours of Work and Working Pattern

The hours for the position are full-time working Monday – Friday.

Pension

You will automatically be enrolled to become a member of USS (Universities Superannuation Scheme) – a defined benefits pension scheme. For further information please visit: www.pensions.admin.cam.ac.uk

Annual leave

Full time research staff are entitled to 41 days paid annual leave inclusive of public holidays.

Right to work in the UK

We have a legal responsibility to ensure that you have the right to work in the UK before you can start working for us. If you do not have the right to work in the UK already, any offer of employment we make to you will be conditional upon you gaining it.

Health declaration

Once an offer of employment has been made the successful candidate will be asked to complete a work health declaration form.

Qualifications

The person specification for this position lists qualifications that are essential and/or desirable. Please note that if you are offered the post you will be asked to provide your relevant original certificates of these qualifications.

References

Offers of appointment will be subject to the receipt of satisfactory references.

Information if you have a disability

The University welcomes applications from individuals with disabilities.

We are committed to ensuring fair treatment throughout the recruitment process. We will make adjustments to enable applicants to compete to the best of their ability wherever it is reasonable to do so and, if successful, to assist them during their employment.

Information for disabled applicants is available at <http://www.admin.cam.ac.uk/offices/hr/staff/disabled/>

We encourage you to declare any disability that you may have, and any reasonable adjustments that you may require, in the section provided for this purpose in the application form. This will enable us to accommodate your needs throughout the process as required. However, applicants and employees may declare a disability at any time.

If you prefer to discuss any special arrangements connected with a disability, please contact, Sam Laister - HR Coordinator, who is responsible for recruitment to this position sl725@cam.ac.uk

The University

The University of Cambridge is consistently ranked one of the best universities in the world, achieving academic excellence through its Faculties, Departments and other Institutions, together with the 31 Colleges.

The University is renowned for its record of discovery and innovation. It is one of the great institutions, with a regional, national and global reach, attracting the very best and brightest minds. Our staff and students shape the world around us for the better: we attract and partner with like-minded people.

Whether contributing to the development of new anti-cancer drugs, adding to the understanding of how black holes are formed, revolutionising the study of ancient settlements, convening academic expertise to offer solutions to the climate crisis, or analysing public attitudes towards democracy around the world, the University's research is remarkable in its breadth, quality and impact. The University also sits at the heart of Europe's largest technology cluster and has catalysed more than 1,500 high-tech companies. And yet what inspires our 24,000 students and 13,000 staff is not what has already been achieved, but what is possible in the future.

The education and experience of our students, based on a partnership between the University's academic Departments and Faculties and the 31 Colleges, is second to none. Every student is a member of one of the Colleges, each a community of students, academics and staff drawn from across the University's comprehensive range of subject areas.



The University is a self-governing community, with a system for decision-making that provides a high degree of accountability and transparency to its members. Each Department and Faculty is part of one of six academic Schools, but each of them, and each individual academic, has a great deal of autonomy. The Colleges are independent and self-governing, working in a symbiotic relationship with the University.

The University has a number of Institutions that are independent of any Faculty or Department and are not part of the academic Schools. These include the Institute of Continuing Education (which provides high-quality education to adults throughout their lives), the Fitzwilliam Museum, Kettle's Yard (an historic house and gallery that holds important collections of modern art) and the University Library. In addition to their diverse contributions to University and public life, these non-School Institutions are also important centres of teaching and research.

Cambridge University Press & Assessment provides academic publishing, examinations and learning materials worldwide, supporting the dissemination of research, academic development at school and in higher education, and international student mobility. Legally, the Press & Assessment is a department of the University. It provides very important funds to invest in the academic purposes of the University.

The University has made truly remarkable contributions to the sum of human understanding, with breakthrough ideas and discoveries that have changed the way we understand ourselves, our planet, and the universe around us. Yet the global and national contexts in which it operates are fast-changing and increasingly filled with uncertainty. In a world that is becoming - politically, economically, socially, and technologically – ever more interconnected but even less equal, the University's mission – “to contribute to society through the pursuit of education, learning and



About Us

The University is one of the world's leading academic centres. It comprises 150 faculties and departments, together with a central administration and other institutions. Our institutions, museums and collections are a world-class resource for researchers, students and members of the public representing one of the country's highest concentrations of internationally important collections.

The University has an annual income of £2 billion. Research income, won competitively from the UK Research Councils, the European Union (EU), major charities and industry, exceeds £500 million per annum and continues to grow.

The Colleges and the University remain committed to admitting the best students regardless of their background and to investing considerable resources both in widening access and financial support. The 31 Colleges are self-governing, separate legal entities which appoint their own staff. Many academic staff are invited to join a College as a Teaching Fellow, which provides a further social and intellectual dimension. The Colleges admit undergraduate students, provide student accommodation and pastoral support and deliver small group teaching for undergraduates.

The University awards degrees and its faculties and departments provide lectures and seminars for students and determine the syllabi for teaching.

Our instinct for seeking out excellence and setting up enduring and mutually beneficial collaborations has led us to establish strategic partnerships across the globe. Whether it is the successful Cambridge-Africa Programme involving universities in Ghana, Uganda and elsewhere on the African continent; or the close association with the government of India to pursue new research in crop science; or the creation, with Germany's Max Planck Institutes, of a Cambridge-based centre for the study of ethics, human economy and social change – international partnerships are now an inextricable part of the University's make-up.

“Through its outstanding education, research and innovation, the University of Cambridge has made - and continues to make - a lasting contribution to human knowledge and is flourishing. By working at the University of Cambridge, you will be joining a vibrant community of students, scholars and professional services staff, committed to supporting and enhancing the University's mission to contribute to society.”

Professor Deborah Prentice,
Vice Chancellor, 2023



Working at the University

Working at Cambridge you will join a diverse, talented and innovative community, with more than 24,000 students and over 13,000 staff from all walks of life and corners of the world.

The University continually explores strategies to attract and retain the best people. It is committed to supporting its staff to achieve their best. We are a fair, diverse and inclusive society and we believe our staff are our greatest asset. There is strong commitment to developing institutional leadership and supporting and encouraging staff development at all levels.

We offer a variety of roles including academic, research, professional, managerial and support roles. We also offer extensive benefits and excellent learning opportunities within a stimulating working environment.

Equality & diversity

The University has built its excellence on the diversity of its staff and student community. We aim to be a leader in fostering equality and inclusion, and in promoting respect and a sense of belonging for all. We encourage applications from all sections of society. All appointments are made on the basis of merit. We have an Equal Opportunities Policy, along with a range of diversity groups, including the Women's Staff Network, Race Equality Network and LGBT+ Staff Network. More details are available here: <http://www.equality.admin.cam.ac.uk/>

The University's estate is undergoing the most significant transformation in its history. Cambridge has been able to create a new science and technology campus to the west of the city centre, and is now expanding further to the north west of Cambridge including investing in affordable homes for University key workers and community facilities. Even with our continued development, the University remains within walking or cycling distance across the campus. The University is a major partner on the Cambridge Biomedical Campus and we continue to redevelop our historic city centre sites demonstrating our determination to ensure that we can offer the best facilities and opportunities for our staff and students.



The University has a bronze Race Equality Charter award, with a framework for improving the representation, progression and success of minority ethnic staff and students within higher education. Furthermore, the University's silver Athena swan award recognises and celebrates good practice in recruiting, retaining and promoting gender equality.

Living in Cambridge

Cambridge is rich in cultural diversity. From beautiful University and College buildings, museums and art galleries, quaint gardens and punts on the River Cam, to a vibrant restaurant and café scene, our employees are surrounded by the wonderful features of this unique city.

You can find a wide-range of high street shops and 3 shopping centres, with independent alternatives at the historic market and nestled within the passageways in the city centre. You will find a cinema, bowling alley, a nightclub and various live performances at the Cambridge Leisure Park, with further entertainment options at the Corn Exchange, Arts Theatre and the ADC Theatre. Further information can be found on the Visit Cambridge website.

If you prefer the faster pace of life, London is a 45-minute train journey away. For those travelling from overseas, Stansted Airport is just 45 minutes away and Heathrow Airport under 2 hours away. The University is a short distance from a host of other attractions such as Ely Cathedral, Newmarket Races and various wildlife parks and stately homes. Cambridge is also within easy reach of the beautiful Broads and coastlines of Norfolk and Suffolk.

Relocation Support

The University recognises the importance of helping individuals to move and settle into a new area. We provide support and guidance to those relocating internationally or domestically to take up a post at the University of Cambridge, liaising with other University offices and selected partners to ensure comprehensive relocation support is available. This includes: accommodation, childcare, schools, banking, immigration and transport. If you would like further information, please visit <https://www.accommodation.cam.ac.uk/RelocationService/>. The Shared Equity Scheme and the Reimbursement of Relocation Expenses Scheme provide financial assistance to qualifying new members of staff with the costs of relocating to Cambridge.

Accommodation Service

The University Accommodation Service helps staff, students and visiting scholars who are affiliated to the University in their search for suitable accommodation in Cambridge. The dedicated accommodation team can provide access to a wide range of University-owned furnished and unfurnished properties, and has a database of private sector accommodation available for short and long-term lets. For further information and to register with this free service please visit: <https://www.accommodation.cam.ac.uk/>



What Cambridge can offer

We offer a comprehensive reward package to attract, motivate and retain high performing staff at all levels and in all areas of work.

The University offers a wide range of competitive benefits, from family leave entitlement, to shopping and travel discount schemes. Our generous annual leave package contributes to the positive wellbeing of our University employees. Sabbatical leave enables academics to focus on research and scholarship, whilst still maintaining their full salary. The University also has a career break scheme for academic and academic-related staff, with additional flexible working policies for all other staff.

Pay and benefits

The University salary structure includes automatic service-related pay progression in many of its grades and an annual cost of living increase. In addition to this, employees are rewarded for outstanding contribution through a number of regular pay progression schemes. The University offers attractive pensions schemes for employees, with an additional benefit of a salary exchange arrangement providing tax and national insurance savings.



CAMbens employee benefits

The University offers employees a wide range of competitive benefits, known as CAMbens. CAMbens offers something for everyone across a range of categories, including:

- Financial Benefits, including shopping discounts (both local and national) and a Payroll Giving scheme;
- Relocation and Accommodation Benefits, including relocation assistance and interest-free Rental Deposit Loans;
- Travel Benefits, including Cycle to Work, discounts on train season tickets and interest-free Travel to Work loans;
- Family Friendly and Lifestyle Benefits, including support with childcare and family friendly policies;
- Health and Wellbeing Benefits, including a University Staff Counselling Service, discounts at the University Sports Centre, and other local gyms, and healthcare schemes.



What Cambridge can offer

Family-friendly policies

The University recognises the importance of supporting its staff. We have a range of family-friendly policies to aid employees' work-life balance including a generous maternity, adoption and shared parental leave entitlement of 26 weeks' full pay, and paid emergency leave for parents and carers.

Other family-friendly support includes:

Our highly regarded workplace nurseries, a childcare salary exchange scheme and a high-quality holiday Playscheme are available to help support University employees with caring responsibilities (subject to demand and qualifying criteria). Further childcare information can be found here: <https://www.childcare.admin.cam.ac.uk/>

The Newcomers and Visiting Scholars Group (<https://www.nvs.admin.cam.ac.uk/>) is an organisation within the University that welcomes the partners and families of visiting scholars and new members of the University. Run by volunteers, the group offers opportunities to visit interesting Cambridge venues, learn about the community, take part in social events and gain local knowledge while developing a strong support network of both residents and other newcomers.

Your wellbeing

The University's Sport Centre, Counselling Services and Occupational Health are just some of the support services available to University employees to promote their physical and mental wellbeing. The University delivers The Festival of Wellbeing annually, which is a programme of stimulating talks and activities, which aim to promote wellbeing and good mental and physical health. The University also hosts the Cambridge Festival, which is a great opportunity to get your first taste of public engagement, through volunteering, supporting hands-on activities or proposing a talk.

Development opportunities

We support new employees to settle in through various activities as well as supporting their professional and career development on an ongoing basis. Our Personal and Professional Development (PPD) team provide development opportunities for all University employees, including face-to-face sessions, online learning modules and webinars. All employees also have unlimited access to LinkedIn Learning to support their development. Both new and existing employees can undertake funded Apprenticeships, which lead to a range of vocational and professional qualifications. We offer reduced staff fees for University of Cambridge graduate courses and the opportunity to attend lectures and seminars held by University departments and institutions. A range of University training providers also offer specialist learning and development in their own areas e.g. teaching and learning, digital literacy, finance, health and wellbeing, safety.



How to Apply

Applications should be submitted online via the University of Cambridge jobs page www.jobs.cam.ac.uk by clicking “Apply online” in the job advert. You will need an email address to register for our online system.

Please include a copy of your **CV and a Cover Letter** in the Upload section of the online application. The letter should explain how you meet the requirements of the role, as listed in the Person Specification section of this document. Please do not include any additional documents as we will not be able to consider these as part of your application.

Conversations about flexible working are encouraged at the University of Cambridge. Please feel free to discuss flexibility prior to applying (using the contact information below) or at interview if your application is successful.

Informal enquiries are welcomed and should be directed to Professor Richard Durbin rd109@cam.ac.uk

If you have any queries regarding the application process please contact Sam Laister sl725@cam.ac.uk

The closing date for applications is midnight on Sunday 12th January 2025.

