



UNIVERSITY OF
CAMBRIDGE

Research Associate (Fixed Term)

Department of Earth Sciences

Closing Date: 13 February 2025

Job Reference: LB44489



Research Assistant /Associate (Fixed Term)

Salary:

£33,882 - £34,866 pa

£36,924 - £45,163 pa

Contract:

Fixed Term for three years in the first instance (based on a start date before 01 October 2025)

Location:

Cambridge

Faculty / Department:

Department of Earth Sciences

Responsible to:

Dr Oscar Branson

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.

Purpose of the role

The purpose of this role is to support and maintain the University's national and international reputation for excellence in research and teaching. Contribution to excellence in research will be as a member of a research team carrying out research and will provide substantial scope for academic judgement, originality, interpretation and presentation of results. Contribution to teaching may include participation in the research group's teaching programme. The role holder will participate in the overall contribution of the department/faculty, for example by (co-)organising group seminar series.

Research Project: Carbonate biominerals play a central role in global carbon cycling, but we do not understand how they form. This project seeks to build a quantitative mechanistic understanding of these processes, integrating biological and geochemical data gathered from marine calcifying organisms grown in controlled conditions. Ultimately, we aim to produce a model of biomineralisation that quantitatively predicts the formation rate and composition of biominerals from the environmental conditions that they are produced in. Such a model can be integrated within global climate models to improve predictions of future climate change, and be inverted to transform our ability to reconstruct past climate records from geochemical archives in fossil biominerals.

Duties of the post: The post-holder will lead the construction, optimisation and testing of a computational model of biomineral formation. The design of this model will be informed by physical, chemical and biological constraints on the mechanisms of biomineralisation, and parameterised by integrating biochemical and geochemical data gathered from a suite of biomineral samples grown by the project team. The post-holder will lead the design and implementation of this model in close collaboration with the PI and a PhD student, with input from the broader cross-disciplinary project team.

Please note the following salary information for this appointment –

Salary ranges: Research Associate: £36,924 - £45,163 (Grade 7). Appointment at Research Associate level is dependent on having a PhD. Those who have submitted but not yet received their PhD, will initially be under-appointed as a Research Assistant (Grade 5, Point 38 - £33,882), moving to Research Associate (Grade 7) upon confirmation of their PhD award.



Key responsibilities

1. 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;
- attend meetings and participate in research discussion within the research group and within the collaboration;
- communicate material of a specialist or highly technical nature.

2. 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.

3. 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.

4. Planning and organising:

- plan the use of research resources, and workshops as appropriate;
- plan and manage own research activity in collaboration with others;
- might help organise a seminar series or a conference;
- contribute to planning of joint research projects led by principal investigator.

Person Specification

Criteria	Essential	Desirable
Education		
PhD in Computing, Earth or Ocean Sciences with an emphasis on modelling geochemical or biological systems	✓	
Experience		
The role holder would possess some research experience with sufficient breadth/depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes;	✓	
The role holder will have experience in at least one, and ideally several of the following:		
<ul style="list-style-type: none"> Model design (e.g. box or dynamical models); 	✓	✓
<ul style="list-style-type: none"> Model implementation in modern programming languages; 	✓	✓
<ul style="list-style-type: none"> Model optimisation approaches (e.g. MCMC, simulated annealing); 	✓	✓
<ul style="list-style-type: none"> A broad understanding of geochemical tracers and/or biological processes; 	✓	✓
<ul style="list-style-type: none"> Experience applying idealised models to complex natural systems. 	✓	✓
Skills		
Will continually update knowledge in the specialist area and engage in continuous professional development;	✓	
Excellent communication and interpersonal skills;	✓	
An ability to work collaboratively.	✓	
Additional requirements		
Experience of managing own workload;	✓	
Ability to work effectively as part of a dedicated team, including with international collaborators;	✓	
Strong publication record (commensurate with career stage).		✓

Declaration on Research Assessment

The University of Cambridge is a signatory to the San-Francisco Declaration on Research Assessment (DORA), and in recruitment or promotion evaluations will assess research on the basis of its merits rather than the journal or venue in which it is published. Applicants should not include Journal Impact Factors or uncontextualized metrics in their applications. Full details are at: <https://www.research-strategy.admin.cam.ac.uk/research-policy/DORA>

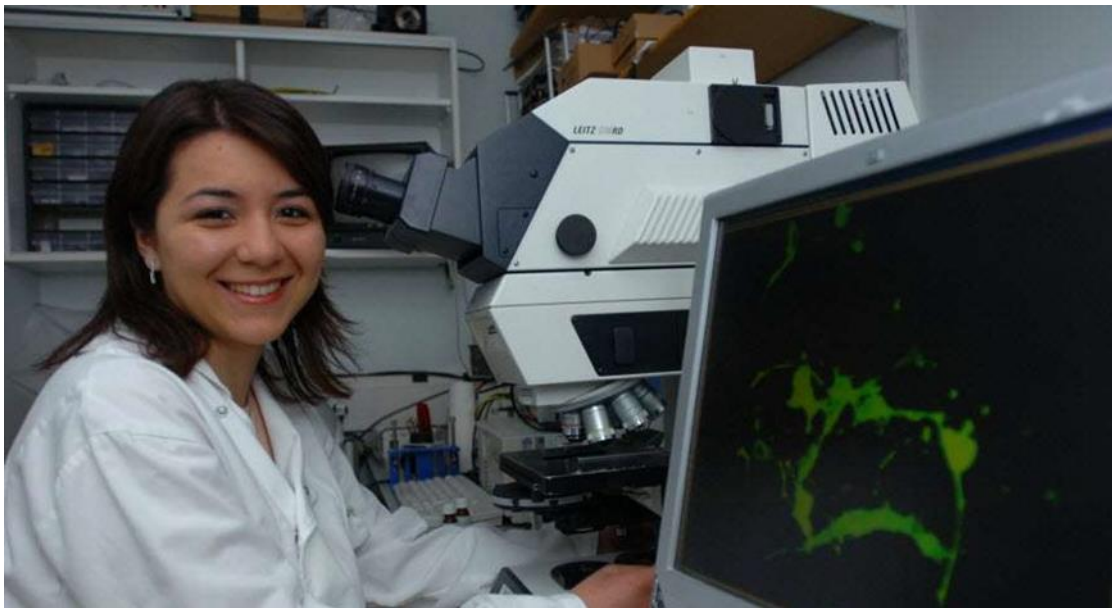
Professional Services Values

Developed by professional services staff, our values underpin everything we do. By living the values in the work we do, we hope to foster an environment where staff feel empowered. The values encourage staff to; work together and share skills to create a sense of community, act with integrity, take an inclusive and fair approach and develop honest and open relationships that are underpinned by our shared values. We encourage applicants to consider these values within their application.



The Department of Earth Sciences

The Department undertakes research in the broad areas of Earth, Environment and Planetary Sciences. Cambridge Earth Sciences achieved the highest overall GPA in its UoA for the 2022 REF and it is one of the top ranked university Earth Science Departments in the world. We were listed top in the Complete University Guide Subject League Table 2022 for UK Geology and 4th in the QS world rankings for Earth & Marine Science 2021.



The Department occupies c. 9,000 sq m of space across the two sites, we employ c. 150 staff including 34 academic staff, 4 of whom are current Fellows of the Royal Society. We have an undergraduate community of approximately 250 and a graduate population of c. 80. The Department holds c. 100 research grants and the annual expenditure exceeds £12M.

Our position within Cambridge's uniquely integrated Natural Science Tripos teaching structure enables us to attract a significant number of biologists, physicists, chemists, and mathematicians into Earth Sciences as undergraduates and as PhD students. We also attract excellent research students from other UK departments and institutions worldwide.

The Department sits within the School of the Physical Sciences (SPS), which encompasses the physical and mathematical sciences and geography. Three of our academic staff are appointed jointly with other Departments within SPS (with the Institute of Astronomy, the Department of Applied Mathematics and Theoretical Physics, and with the Department of Materials Science). We have strong multidisciplinary collaborations in research particularly through the interdisciplinary research centres which we were instrumental in setting up, notably the Institute for Energy and Environmental Flows (IEEF) with the partner Departments of Applied Mathematics and Theoretical Physics (DAMTP), Chemistry, Engineering, and Chemical Engineering.

The core mission of the Department is to place fundamental science at the heart of addressing present and future societal challenges. Our strategic vision is founded on the following guiding principles:

- **A vision for research** that pursues fundamental, curiosity-driven science leading to major breakthroughs in our understanding of the Earth and the Environment.
- **A vision for impact** that creates pathways to translate fundamental research into long-term societal and commercial benefit, identifies broad research priorities that are aligned with those of the UK government, research councils and stakeholders, and leads to growth and diversification of grant income.
- **World-class research infrastructure** through sustained investment in equipment and laboratories, enabling research activity to be maintained at the cutting edge.
- **Outstanding technical support and innovation**, with an emphasis on sustaining and developing expertise for the long term.
- **Well-funded postgraduate research programmes**, providing outstanding training to the next generation of scientists, and delivering sustainable growth in postgraduate numbers.
- **Attracting the best Earth and Environmental scientists** at all levels, ensuring we remain internationally competitive in the recruitment and retention of talent.
- **A supportive and collegiate work environment** that creates the time and space for academics to pursue world-leading research.
- **Commitment to the development and promotion of researchers** at all career stages through effective appraisal and mentoring systems.
- **Effective financial and administrative support**, allowing researchers to focus more of their time on delivering their science goals.
- **Promoting equality, diversity and inclusion** in all areas, and a commitment to support the physical and mental wellbeing of all our staff, postdocs, postgraduates and undergraduates.

Further general information about the Department of Earth Sciences and the University of Cambridge can be found on the websites: <http://www.esc.cam.ac.uk> & <http://www.cam.ac.uk>.

The School

The Department is part of the University's School of the Physical Sciences which is one of six Schools making up the academic work of the University. It covers Astronomy, Chemistry, Earth Sciences, Geography, Materials Science and Metallurgy, Mathematics and Physics.

About the School

The School's aim is to contribute to our understanding of the physical world through excellence in observational, theoretical and experimental science and to extend quantitative, qualitative and combined methodologies to address problems in the fields of biology, technology, medicine, social science and the humanities. In pursuit of these goals, the School coordinates objectives in research, teaching, and infrastructure.

The role holder will contribute to the School's strategy for integrated and sustainable services/operations and will have the opportunity to contribute to School-wide developments through the management of projects or functional areas, where workload permits. They will develop and maintain constructive dialogue and communication with key contacts across the School and the wider University in order to best inform and enhance Departmental activities.

Athena Swan

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 will contribute towards a more positive working environment for all. For more information on the history and principles of the Athena SWAN Charter please visit the Athena SWAN website.

The University of Cambridge was a founder member of Athena SWAN Charter and the University won its first award in the inaugural round of March 2006. Since then the University has successfully renewed its Bronze Athena SWAN award in 2009 and 2012 and in 2014 achieved a Silver Athena SWAN award. The School continues to support the Athena SWAN process across all subjects and the Department of Earth Sciences holds an award at Bronze level.



Terms of Appointment

Tenure and probation

Appointment will be made on a fixed-term basis for a period of three years due to limited funding for a specific purpose. Please note this is based on a start date before 01 October 2025. Appointments will be subject to satisfactory completion of a six-month probationary period.

Hours of Work and Working Pattern

The hours of work 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 hybrid pension scheme. For further information please visit: www.pensions.admin.cam.ac.uk/.

Annual leave

Full time employees are entitled to annual paid leave of 41 days inclusive of public holidays. For new part-time employees, annual leave will be pro rata'd based on days worked.

General information

Pre-employment checks

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 required 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, the Department Administrator, who is responsible for recruitment to this position. Alternatively, you may contact the HR Business Manager responsible for the department you are applying to via hrenquiries@admin.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 research at the highest international levels of excellence” – has never been more relevant.



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.

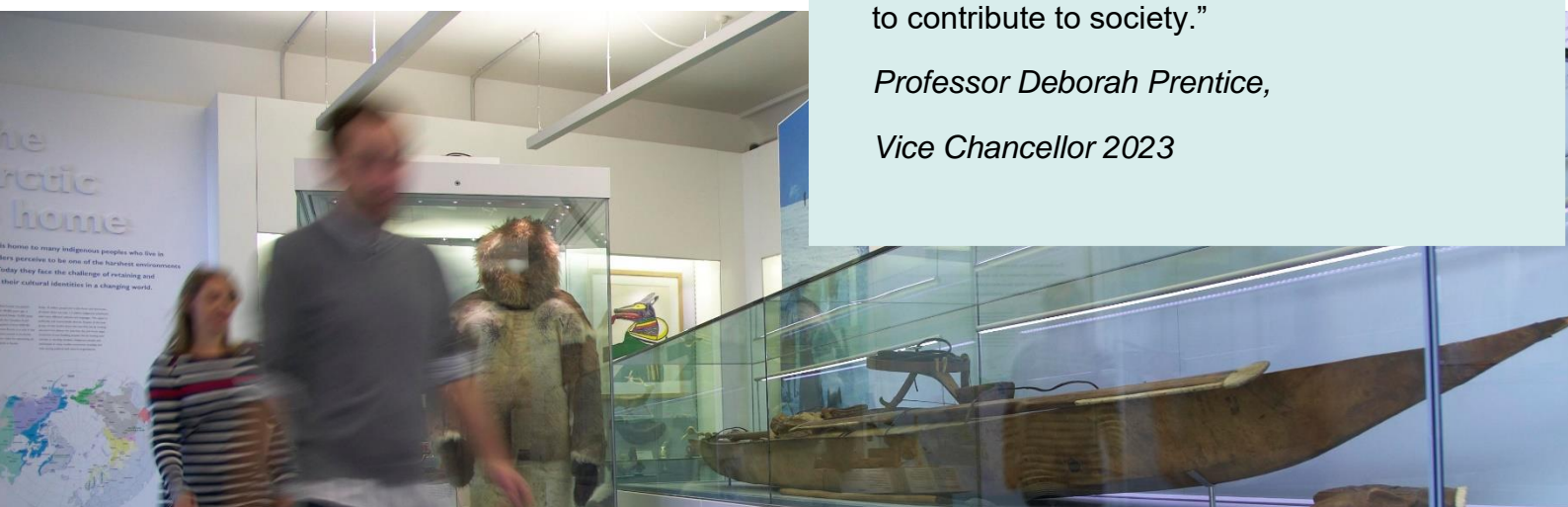
The Colleges and the University remain committed to admitting the best students regardless of their background and to investing considerable resources both in widening access and financial support. The 31 Colleges are self-governing, separate legal entities which appoint their own staff. Many academic 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.

The University offers 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 and Inclusion

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 science and technology campus to the west of the city centre, and is expanding further to the north west of Cambridge including investing in affordable homes for University key workers and community facilities. Even with their 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 continues to redevelop its historic city centre sites demonstrating a clear 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.

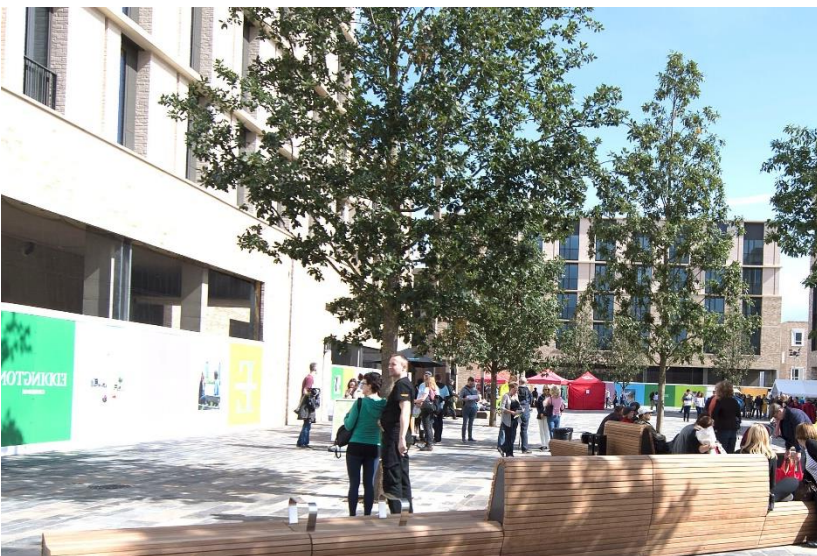
Relocation Support

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

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.

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: Dr Oscar Branson,
Email: ob266@cam.ac.uk

If you have any queries regarding the application process, please contact:
Amy Coussell, HR Coordinator, via hr@esc.cam.ac.uk

The closing date for applications is: **13 February 2025**

