Research Software Engineer for the Stephen Hawking Centre for Theoretical Cosmology

Department of Applied Mathematics and Theoretical Physics

Closing Date: 14 April 2021
Job Reference: LE25830
Research Software Engineer for the Stephen Hawking Centre for Theoretical Cosmology

Role Profile

The role holder will provide parallel programming and HPC development support to faculty and researchers within the Faculty of Mathematics, as well as helping to develop and deliver training courses in research programming for graduate students in the Centre for Doctoral Training (CDT) with which it is associated. More specifically, the role holder will provide research programming support to the members of the Stephen Hawking Centre for Theoretical Cosmology (CTC) and the linked Relativity and Gravitation group, the DAMTP Astrophysics group, as well as to members of the STFC Centre for Doctoral Training in Data Intensive Science.

The post is currently part of the award-winning COSMOS Intel Parallel Computing Centre within CTC, which has a longstanding industrial collaboration also with Hewlett-Packard Enterprise. The post is partially supported by the DAMTP STFC Consolidated Grant in Astronomy. The role holder will report to the IPCC Project Manager on a day-to-day basis and the Head of the GR group and STFC grant holder on a weekly basis. The COSMOS IPCC has pioneered the use of state-of-the-art in-memory and many-core systems for many years. The latest developmental platform within the Faculty of Mathematics is the Fawcett system, an innovative tightly-coupled cluster/co-cluster (HPE Superdome Flex with Apollo cluster housing Xeon Phi and GPU cards), which reflects the capabilities of the University of Cambridge supercomputer, currently the most powerful academic system in the UK. We expect COSMOS IPCC will continue to obtain early access to new technologies from our industrial partners, notably Intel’s new HPC GPUs.

Role purpose

The role holder provides programmer support to the CTC/GR group and the Astrophysics group within DAMTP. The post holder will be an integral member of the COSMOS programming team which has considerable experience optimising and porting codes to high performance systems. Specialised parallel programming support for code development will include using MPI, OpenMP and Intel AVX extensions. Importance include in-situ (or “on-the-fly”) parallel visualization using the Intel® oneAPI Rendering Toolkit (also in collaboration). Other software projects include efficient data analytic programming on in-memory systems such as the HPE Superdome Flex.

The role holder will provide backup technical computer officer support for group systems and coordinate holiday cover for system administration and other duties of the Faculty of Mathematics Research Programming Project Manager. The role holder will jointly develop and deliver research programming courses to graduate students in collaboration with the relevant CDT Course Directors and the IPCC Manager. This will involve training presentations and web documentation, primarily for PhD students in Centres for Doctoral Training associated with the Faculty of Mathematics. The role holder will be provided with training by the vendors Intel and HPE and will be expected to attend further courses at national facilities, coordinated with RCUK HPC and data analytic initiatives.
1. Academic environment and context

**COSMOS Intel Parallel Computing Centre (IPCC):** In April 2014, Intel Parallel Computing Centre status was awarded to the COSMOS supercomputer team in DAMTP, part of the Stephen Hawking Centre for Theoretical Cosmology (CTC); that is, they joined an elite of much larger HPC centres at the vanguard of many-core computer technologies and code modernization. This development was built on a longstanding industrial collaboration with both Intel (since 2003) and HPE/SGI (since 1997 with SGI acquired by HPE in 2016) that has consistently offered early access to new computer architectures, specifying and co-designing systems with HPE/SGI engineers, and being supported by Intel software engineers and embedded COSMOS programmers. Due to its innovative collaborative work on in-situ visualization, the COSMOS team became an Intel Graphics and Visualization Institute of XeLLENCE targeting exascale computing.

**The Stephen Hawking Centre for Theoretical Cosmology (CTC):** CTC exists to study the two circumstances in which the hidden basic fabric of the Universe is violently shaken and unveiled: in the enormous temperatures and densities of the Hot Big Bang and during the extreme collapse to form black holes or their mergers. High capability HPC facilities have been vital to the successful implementation of this ambitious CTC research programme which relies heavily on numerical relativity and cosmology. For over 20 years CTC has hosted the COSMOS supercomputer on behalf of the wider UK research community (primarily in cosmology). Now with the development of the HPC platform embedded within the Faculty of Mathematics, the group still enjoys access to the latest many-core and in-memory systems from both Intel and our other technology partner, HPE (SGI). Combining these leading-edge technologies has opened up new avenues for scientific investigation by offering, on the one hand, huge flexible memory for data analytics, while, on the other, a step-change in processing power through massive parallelism. This is illustrated by the many-core optimization of the computationally intensive Planck Satellite bispectrum estimation pipeline (i.e. evaluating the CMB three-point correlator or “triangles in the sky”). With Intel and embedded IPCC programmer support, porting onto many-core Xeon Phi processors yielded an orders of magnitude speed-up (from a mix of vector and algorithmic enhancements). Highly parallel bispectrum calculations were reduced from 24 hours to minutes, becoming comparable to the seconds required to find the CMB power spectrum and close enough to pursue joint MCMC analysis.

Comparable speed-ups have been mirrored in the new AMR numerical relativity code (GRChombo - https://github.com/GRChombo) developed to go beyond the study of black hole mergers and gravitational waves to more general configurations (e.g. higher dimensional black holes and rings, cosmic strings and other violent phenomena from cosmological phase transitions). Visualization of both cosmological and black hole data sets has also proved to be an important tool for deepening understanding. As well as early access to new computer architectures, both Intel and HPE have and continue to support COSMOS IPCC programmer effort, internally through Intel engineering effort and previously through programmer funding.

**The Cambridge Centre for Doctoral Training in Data Intensive Science** is an innovative, interdisciplinary centre, distributed between the Department of Physics (Cavendish Laboratory), Department of Applied Mathematics and Theoretical Physics (DAMTP), Department of Pure Mathematics and Mathematical Statistics (DPMMS) and the Institute of Astronomy (IoA). The CDT provides a four year PhD working on a data intensive project. The PhD is structured with the initial year featuring a significant taught element, including courses on high performance research computing and machine learning techniques. The students are also required to complete a 6 month placement in industry applying their skills in real world problems defined by our non-academic partners, preparing them for careers in academic research and non-academic roles in industry. For further information, see https://cdtdis.bigdata.cam.ac.uk
2. COSMOS IPCC achievements and ongoing research

**Many-core code modernisation** efforts with flagship CTC codes have yielded dramatic speed-ups on Intel Xeon and Xeon Phi systems, including the Planck satellite statistical analysis pipeline MODAL and the AMR numerical relativity code GRChombo for gravitational waves (recently publicly released). Optimisation efforts on the MODAL Planck pipeline were recognised at Supercomputing 2015 by the HPCwire Award for *Best Use of High Performance Data Analytics* (awarded to “leaders in the global HPC community”). Cosmos IPCC members authored a key chapter on *Nested Parallelism* in the industry standard book on Xeon and Xeon Phi optimization, *Parallelism Pearls for Multicore and Many-core Programming*, as well as White Papers and articles (e.g. *J. Comp. Phys.*). MODAL, GRChombo and other CTC codes have been used as exemplars by Intel at many HPC conferences. This modernization work will continue as we look to exascale accelerator architectures, exploring platform independent programming paradigms, including Data Parallel C++ and Intel’s oneAPI libraries intended to be portable with good performance across heterogeneous process architectures.

**Hybrid programming models on heterogeneous systems**: COSMOS IPCC programmers have led innovation in this area, that is, on systems which combine standard Xeon-like processors together with accelerators, such as the co-designed UV2 and Superdome Flex systems. One result of COSMOS IPCC work has been improvements in the capability of the *Intel Manycore Platform Software Stack* (MPSS), including advances in multi-card offload performance and asynchronous bi-directional offload (see Intel LoS). The COSMOS IPCC research programme aims to develop inter-node offload-over-fabric capability for more powerful cluster/co-cluster combinations, moving towards programming paradigms where system architecture, algorithm implementations and runtime environments are designed hand-in-hand.

**In situ visualization**: Cosmos IPCC has collaborated on Intel’s development of the OSPRAY software ray-tracing engine for many-core systems, providing Intel Booth and other demonstrations at almost all the recent major international supercomputer conferences (ISC’15, SC’15, ISC ’16, SC ’16, ISC ’18, SIGGRAPH ’19) e.g. visualizing 10TB data sets in real-time; our visualization efforts were also nominated for SC awards in 2016 and 2017. Key scalability advances have been made in the AMR numerical relativity code GRChombo that has been used to implement visualization capabilities, both for adaptive mesh refinement (AMR) and in situ graphics processing. Until recently the dominant approach to visualization and analysis of scientific simulations has been post hoc processing after saving data to the file systems, but this has become impractical with larger data sets. Instead, together with Intel we have extended “on the fly” or in situ visualization capabilities through OSPRay/Catalyst libraries, incorporating this in the GRChombo code as a demonstrator. These leading-edge scalable in situ capabilities for HPC systems have now been built into ParaView, an open source package used worldwide (supported by Kitware). This work is part of a broader collaboration with Kitware, the Texas Advanced Computing Centre and other institutions, now targeting capability improvements in Intel® oneAPI Rendering Toolkit, an open-source visualization package. With the Cambridge group now an Intel Graphics and Visualization Institute of XeLLENCE, we are preparing for the realities of exascale computing for which in-situ visualization will be essential. Work on in-situ visualization forms a major component of the initial focus in the first year with UKRI ExCALIBUR funding, including a training event and support for two visualization projects with other UK groups.
# Person specification

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<th>Qualifications</th>
<th>Essential</th>
<th>Desirable</th>
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<tr>
<td>Degree level qualification/Level 6 vocational qualification or equivalent level of experience in physics, mathematics or computer science</td>
<td>✓</td>
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<td>A Master’s or PhD degree in high performance computing or a related field</td>
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<th>Experience</th>
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<td>Evidence of advanced academic and research computing support is required, including parallel programming</td>
<td>✓</td>
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<td>Demonstrated skills in software architecture design, object-oriented design and development; source code control systems such as git and other standard software engineering practices</td>
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<td>Familiarity with Linux operating systems (preferably RedHat or SLES) and an understanding of system / application integration</td>
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<td>Knowledge of C, C++, Fortran 90/03/08 and python is required with fluency of at least one of C, C++ or Fortran/90/03/08</td>
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<td>Fluency in MPI/OpenMP is required; other parallel programming paradigms</td>
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<td>Knowledge of good software engineering practices like code maintainability, control version, code testing etc.</td>
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<td>Experience in code development in a high performance computing environment, environment, including code building, optimization, running and profiling and knowledge of relevant tools</td>
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<td>Experience in machine learning is desired</td>
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<th>Skills</th>
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<td>Ability to develop and maintain their own knowledge in their field</td>
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<td>Strong planning skills</td>
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<td>Strong ability to build relationships at all levels of the organisation</td>
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<td>Ability to diagnose complex problems and develop solutions</td>
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<td>Ability to translate scientific requirements into applications</td>
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<td>Good communication skills are required, including the ability to communicate clearly with non-expert individuals for training purposes and with technical representatives of external organisations (software engineering teams, hardware vendor engineers, sales personnel etc)</td>
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<td>Demonstrate the ability to work on own initiative and as part of a team</td>
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<td>Efficient time management to ensure achievement of goals to a schedule</td>
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<th>Additional Requirements</th>
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<tr>
<td>Familiarity with standard HPC data formats such as HDF5</td>
<td>✓</td>
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<td>Experience with visualization packages such as ParaView or Visit is preferred</td>
<td>✓</td>
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The Department of Applied Mathematics and Theoretical Physics (DAMTP)

The Department of Applied Mathematics and Theoretical Physics is one of the largest and strongest departments of its kind in Europe. DAMTP is a large Department with around 50 academics (professors, readers and lecturers) and almost 100 contract research staff. There are also 20 – 30 visiting academics, 130 postgraduate research students and 100 graduate students. Over 800 undergraduate and postgraduate students are enrolled in Parts I to III (years 1 to 4) of the Mathematical Tripos. Part III is not only the 4th year of the undergraduate course, but attracts more than 100 students each year from outside Cambridge, who take it as a one-year postgraduate course, leading to a Masters degree.

DAMTP shares responsibility for teaching in the Mathematical Tripos with its sister Department, the Department of Pure Mathematics and Mathematical Statistics (DPMMS). DAMTP also has responsibility for teaching mathematics to undergraduates taking Natural Sciences. DAMTP and DPMMS are accommodated, along with the Isaac Newton Institute for Mathematical Sciences and the Betty and Gordon Moore Library (covering mathematics, physical sciences and technology) at the Centre for Mathematical Sciences, a purpose-built complex in Wilberforce Road.

The Faculty of Mathematics is a supporter of the Good Practice Scheme developed by the London Mathematical Society’s Women in Mathematics Committee (http://www.lms.ac.uk/women/good-practice-scheme). The Faculty is actively engaged with the Athena SWAN Award Scheme (holding a Bronze Award from 2013). The Department would particularly welcome applications from women, since women are, and have historically been, underrepresented.

The Department is also keen to attract applications from candidates who have a genuine interest in, and commitment to, developing the role of women in mathematics and who can demonstrate the potential to be strong role models to female mathematicians.

Research

Current research in DAMTP is loosely organised into eight broad subject areas: Applied and Computational Analysis, Astrophysics, Geophysics, Fluid and Solid Mechanics, Mathematical Biology, Quantum Information, High Energy Physics and General Relativity and Cosmology. The boundaries between the areas are not rigid and evolve with time. Many members of staff contribute to more than one area and this is regarded as a key factor in the continuing success of DAMTP. Research in each of DAMTP’s subject areas involves collaboration with strong groups nationally and internationally, and participation in numerous interdisciplinary projects and programmes. Many members of DAMTP have valuable links with industry and other non-academic sectors.

Further general information about the University of Cambridge, the Department of Applied Mathematics and Theoretical Physics, and Mathematics in Cambridge may be found on the websites: http://www.cam.ac.uk, http://www.damtp.cam.ac.uk and http://www.maths.cam.ac.uk.
The School

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

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.

About the School

The School of the Physical Sciences comprises the following Departments:

- Applied Mathematics and Theoretical Physics (DAMTP)
- Chemistry
- Earth Sciences
- Geography (including the Scott Polar Research Institute)

The School is responsible for allocating core funds to departments and provides broad strategic focus across its constituent departments in a number of areas including; research activity, undergraduate and graduate education, estate needs, fundraising and human resources. As part of the University’s annual planning cycle, the School prepares a financial and academic plan which sets out strategic objectives, determines budgets, as well as the flow of resources to departments. The School manages a wide range of administrative activities and projects across its departments and works alongside other Schools to further interdisciplinary research.

The School has over 1500 members of staff, over 3000 students and an annual budget of over £100 million.
Terms of appointment

Tenure and probation
Appointment will be made on a fixed-term basis of 2 years (reason for limit of tenure: limited funding). 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 37 hours per week, 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 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.

Equality and Diversity
We particularly encourage women and/or candidates from a Black, Asian and Minority Ethnic background to apply for this vacancy as they are currently under-represented at this level within our University.

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, Ms Julie Bazin, who is responsible for recruitment to this position, on 01223 764289 or by email on hr-office@maths.cam.ac.uk.
The University

The University of Cambridge is one of the world’s oldest and most successful universities. We are a renowned centre for research, education, and scholarship that makes a significant contribution to society. The University is consistently ranked amongst the top universities in the world. Our affiliates have won more Nobel Prizes than any other University.

Our sustained pursuit of academic excellence is built on a long history of first-class teaching and research within a distinctive collegiate system. For eight centuries our ideas and innovations have shaped the world. Our principal goal is to remain one of the world’s leading universities in an increasingly competitive global higher education sector. Today the University of Cambridge is at the centre of a cluster of over 4,300 businesses employing 58,000 people.

Our capital investment projects include the West Cambridge site, the North West Cambridge development and the growth of the Biomedical Campus in the south of the city. The North West Cambridge development includes the opening of a primary school – the first in the UK to be managed by a University. So we are deeply embedded in, and committed to serving, our local community. These are all conspicuous signs of a University that is not only adapting to new needs, but also anticipating the future.

Our mission is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence. Our core values are:

- freedom of thought and expression; and
- freedom from discrimination.
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 students, provide student accommodation and deliver small group teaching.

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

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.

“Cambridge graduates and researchers have made – and continue to make – a colossal contribution to human knowledge and the understanding of the world around us. Their work touches on the lives and livelihoods of everyone from patients diagnosed with life-threatening diseases, to residents of areas critically affected by climate change, to children growing up in conflict zones. It has a lasting impact on our society, our economy and our culture: the world is truly a better place thanks to their efforts.”

Stephen Toope, Vice Chancellor 2019
Working at the University

Working at Cambridge you will join a diverse, talented and innovative community, with more than 18,000 students and over 16,000 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.

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.

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 networks for women, black and minority ethnic and lesbian, gay, bisexual and transgender staff. More details are available here: http://www.equality.admin.cam.ac.uk/

The University has a bronze Race Equality Charter aware, with framework for improving the representation, progression and success of minority ethnic staff and students within higher education. Furthermore, the University’s Athena SWAN award recognises and celebrates good practice in recruiting, retaining and promoting women.
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/. 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. Payroll giving is also a simple, tax-efficient way for employees to make monthly donations to charity.

CAMbens employee benefits
We offer a CAMbens scheme for University employees, providing access to online and in-store shopping discounts and cashback. With more than 2,000 participating retailers, employees can save money on a wide range of household expenses, from groceries and clothes, to holidays and insurance and much more. A range of local discounts are also available, helping employees to save money whilst also supporting local Cambridge businesses and a CAMbens Cycle to Work salary sacrifice scheme is also available, which enables employees to save money on transport costs. A 10% discount rate on the purchase of train season tickets, bulk buy tickets and an interest free travel to work loan are also available for staff of the University.
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 18 weeks full pay and emergency family care support via My Family Care.

Other family-friendly support includes:
Our highly regarded workplace nurseries, a childcare salary exchange scheme and a high quality holiday Playscheme may be 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 is an organisation within the University run by volunteers whose aim is to help newly arrived wives, husbands, partners and families of Visiting Scholars and members of the University to settle in Cambridge and give them an opportunity to meet local people. The Office of Postdoctoral Affairs supports the postdoctoral community within Cambridge. Further details are available here: https://www.opda.cam.ac.uk/

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. There are many societies in Cambridge catering for almost every taste and interest. Whether you want to take part in a sport, participate in music or drama, pursue a hobby, or join a political group, you will almost certainly find that a society exists for this purpose. The University also hosts the Cambridge Science Festival and Cambridge Festival of Ideas, as well as Open Cambridge weekend, which together attract over 50,000 visitors per year. The festivals are 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. The encouragement of career development for all staff is one of the University's values and we put this into practice through various services and initiatives. Our Personal and Professional Development Department provides development opportunities and courses for all University employees. These include face-to-face sessions, online learning modules and webinars. Employees may also apply for financial support to undertake training that will lead to a qualification. 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. The CareerStart@Cam programme also supports employees in assistant staff roles who do not hold higher education qualifications to develop their skills, experience and qualifications.
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.

Informal enquiries may be made to Paul Shellard (epss@damtp.cam.ac.uk) and James Fergusson (jf334@cam.ac.uk).

If you have any queries regarding the application process please contact LE25830@maths.cam.ac.uk.

The closing date for applications is: 14 April 2021