

# Senior Cloud Engineer

University Information Services

Closing Date: 24 November 2024

Job Reference: VC42390



# Senior Cloud Engineer

## Salary:

£46,485 – £58,596

## Contract:

Fixed term (2 years)

## Location:

Cambridge

The University is supportive of hybrid working, where some work is undertaken on University premises and some in a remote working environment. The aim of our approach is to enable as many staff as possible to work in a hybrid way if they wish and where their role allows.

## Division:

Information Services

## Responsible to:

Principal Cloud Engineer

## Working Pattern:

Full Time

We are seeking to appoint a Senior Cloud Engineer to be part of a new and exciting initiative to develop the UK Square Kilometre Array (SKA) Regional Centre (UKSRC).

The SKA will be the world's largest radio telescope, with eventually over a square kilometre (one million square metres) of collecting area. There will be multiple SKA Regional Centres (SRCs) in countries around the world working together to receive the SKA Observatory data and to support users in making new and exciting discoveries about the Universe.

UKSRC activities will initially contribute to the global development project (SRCNet) but will also create a UK science facility usable by other communities. The UKSRC project has contributors from the Universities of Cambridge, Durham, Edinburgh, Hertfordshire, London (UCL), Manchester and the STFC Scientific Computing Division.

As part of the UKSRC work you will be working with high

performance computing systems engineers based in Research Computing Services but also colleagues in the Department of Physics and the Institute of Astronomy, as well as more than 15 additional staff in UK partner institutes and >40 worldwide.

## Purpose of the role

The Senior Cloud Engineer is a key role in a team that integrates and optimises complex systems components to enable the research agendas of the international research community. The successful candidate will plan and lead development on sets of related activities and have an understanding of the whole system they manage. They will work with other disciplines and stakeholders to understand what needs to be delivered and supervise and mentor more junior colleagues. They will initiate new medium term projects that bring additional value to customers and stakeholders and develop and deliver methodology to improve systems performance, scalability and stability. The successful candidate will develop their activities in collaboration with key stakeholders from amongst partners and key academic research groups.

Duties will include responsibility and autonomy for meeting project objectives and targets. The role holder will need to be comfortable resolving complex problems while maintaining attention to detail and data orientated decision making.





## Key responsibilities

### Method and Tools

Provides advice, guidance and expertise to promote adoption of methods and tools and adherence to policies and standards. Evaluates and selects appropriate methods and tools in line with agreed policies and standards. Implements methods and tools at programme, project and team level including selection and tailoring in line with agreed standards. Manages reviews of the benefits and value of methods and tools. Identifies and recommends improvements. Contributes to organisational policies, standards, and guidelines for methods and tools.

### Solution architecture

Leads the development of solution architectures in specific business, infrastructure or functional areas. Ensures that appropriate tools and methods are available, understood and employed in architecture development. Within a change programme, leads the preparation of technical plans and, in liaison with business assurance and project staff, ensures that appropriate technical resources are made available. Provides advice on technical aspects of solution development and integration (including requests for changes, deviations from specifications, etc.) and ensures that relevant technical strategies, policies, standards and practices (including security) are applied correctly.

### Systems design

Adopts and adapts appropriate systems design methods, tools and techniques selecting appropriately from predictive (plan-driven) approaches or adaptive (iterative/agile) approaches, and ensures they are applied effectively. Designs large or complex systems. Undertakes impact analysis on major design

options and trade-off. Makes recommendations and assesses and manages associated risks. Reviews others' systems designs to ensure selection of appropriate technology, efficient use of resources, and integration of multiple systems and technology. Ensures that the system design balances functional and non-functional requirements. Contributes to development of systems design policies and standards and selection of architecture components.

### Systems integration and build

Identifies, evaluates and manages the adoption of appropriate tools, techniques and processes (including automation and continuous integration) to create a robust integration framework. Leads integration work in line with the agreed system and service design. Monitors and reports on the results of each integration and build. Designs and builds integration components and interfaces. Contributes to the overall design of the service and the definition of criteria for product and component selection. Contributes to development of systems integration policies, standards and tools.

### Porting/software configuration

Ensures the availability of hardware, software, and resources for the systems testing of platform-specific versions of one or more software products. Defines configurations required for testing with reference to agreed testing standards. Evaluates new developments in the organisation and the industry and advises senior management on potential growth, problem areas and resourcing needs. Ensures adherence to agreed standards and good practice.



**Key responsibilities...continued****Systems development management**

Defines systems development projects which support the organisation's objectives and plans. Selects, adopts and adapts appropriate systems development methods, tools and techniques selecting appropriately from predictive (plan-driven) approaches or adaptive (iterative/agile) approaches. Ensures that senior management is both aware of and able to provide the required resources. Facilitates availability and optimum utilisation of resources. Monitors and reports on the progress of development projects, ensuring that projects are carried out in accordance with agreed architectures, standards, methods and procedures (including secure software development). Develops road maps to communicate future development activity.

**Specialist advice**

Actively maintains recognised expert level knowledge in one or more identifiable specialisms. Provides definitive and expert advice in their specialist area(s). Oversees the provision of specialist advice by others, consolidates expertise from multiple sources, including third party experts, to provide coherent advice to further organisational objectives. Supports and promotes the development and sharing of specialist knowledge within the organisation.

**Research**

Within given research goals, builds on and refines appropriate outline ideas for research, including evaluation, development, demonstration and implementation. Applies standard methods to collect and analyse quantitative and qualitative data. Creates research reports to communicate research methodology and findings and conclusions. Contributes sections of material of publication quality. Uses available resources to update knowledge of any relevant field and curates a personal collection of relevant material. Participates in research communities.

# Person Specification

Criteria	Essential	Desirable
<b>Experience</b>		
Significant experience of creating, installing and managing cloud computing solutions.	✓	
Significant experience implementing high performance computing solutions.	✓	
Significant experience of system administration of large-scale Linux based systems.	✓	
Experience of performance evaluation and building open & closed source solutions.	✓	
Significant experience of HPC environments, benchmarking and performance evaluation.		✓
Experience of High Performance Computing parallelization (MPI and OpenMP).		✓
Experience of gathering customer requirements and creating solutions to meet customer and business criteria.	✓	
<b>Skills</b>		
Significant knowledge of scripting languages such as Bash, Perl, Python.	✓	
Ability to prioritise own workload and to work independently.	✓	
Debugging of complex problems.	✓	
Mentoring junior and mid-career developers.		✓
Excellent communication skills.	✓	
Working with virtual teams to drive achievement of tasks to deadlines.		✓
Systems and network security at scale.	✓	
<b>Qualifications</b>		
A Master or PhD degree in Computer Engineering, Computer Science.	✓	
<b>Additional requirements</b>		
Ability to engage with people of different background, nationality and skills set.	✓	
Requirement to be able to work in a highly dynamic environment with a strong customer service approach.	✓	

# Behavioural Attributes

This section summarises the behavioural attributes (or competencies) that we expect the role holder to be able to demonstrate, at what level and whether this is an essential or desirable requirement.

Full definitions are at: <https://www.hr.admin.cam.ac.uk/policies-procedures/behavioural-attributes>.

Attribute	Level
Valuing Diversity	A
Achieving Results	B
Communication	B
Innovation and Change	B
Negotiating and Influencing	B
People Development	B
Relationship Building	B
Strategic Focus	B

# University Information Services



## **The UIS provides the digital infrastructure at the heart of the University's world-leading education and research.**

For example, our high performance computing team has developed the UK's fastest academic computer and is supporting groundbreaking medical, engineering and astronomy research. Our networks team runs Europe's biggest privately owned ultra-high speed fibre optic network, connecting researchers, students and other organisations across Cambridge and beyond. And, the University's finance, HR and student administration rely on our business systems.

The University also has a bold ambition to use digitalisation to transform education and research. The UIS's team of developers, designers, testers, analysts and support staff is leading this exciting work. Our work ensures Cambridge continues to be one of the world's top universities.

The University of Cambridge consists of over 100 institutions (Departments, Faculties and Schools) and employs around 12,000 staff. The Director of Information Services leads a University Information Services function which positively adds value to the University. For the delivery of a world – class computing service for all of the relevant stakeholder communities.

As a customer focussed organisation the purpose of UIS is to provide business information services that underpin the critical management processes used across the collegiate University in research, teaching and administration.

The UIS works strategically with Schools, Faculties, Departments, Colleges and other institutions, in planning and delivering the future information service requirements of the University, progressively improving business processes, capabilities and information solutions that meet business needs.



# Terms of Appointment

## Tenure and probation

Appointment will be made on a fixed-term basis of 2 years. Appointments will be subject to satisfactory completion of a probationary period of 9 months.

## Hours of Work and Working Pattern

The hours of work for the position are full-time.

We welcome applications from individuals who wish to be considered for part-time working or other flexible working arrangements.

## 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/](http://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.

### Screening Checks

This role requires a basic disclosure (DBS) check and a security check. Any offer of employment we make to you will be conditional upon the satisfactory completion of these checks. Whether an outcome is satisfactory will be determined by the University.

### 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 Institution.

### 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.



# 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.



# 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 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*





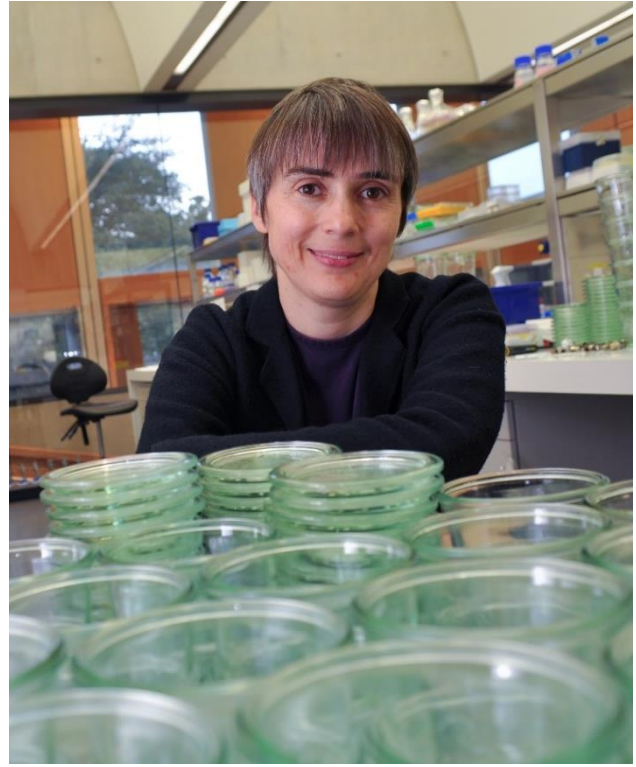
# Working at the University

**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 award, 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/relocation>. 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](http://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.

All queries should be directed to [recruitment@uis.cam.ac.uk](mailto:recruitment@uis.cam.ac.uk) in the first instance, quoting vacancy reference **VC42390**.

The closing date for applications is **24 November 2024**