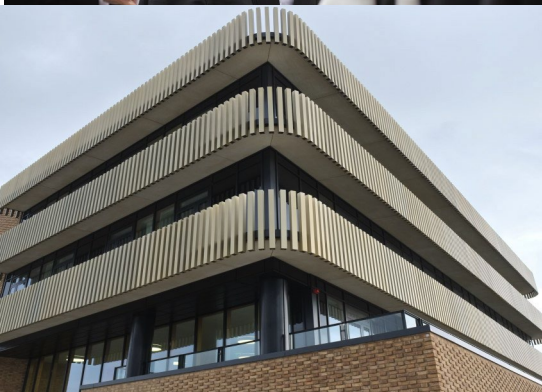
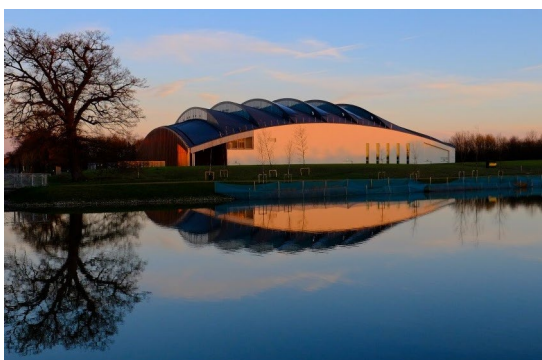


# Senior Electron Microscope Technician

Department of Materials Science and Metallurgy

Closing date: 2 October 2024

Job Reference: LJ43150



# The role

**Salary:**  
£32,332 - £38,205

**Contract:**  
Permanent

**Location:**  
West Cambridge

**Department:**  
Department of Materials  
Science and Metallurgy

**Responsible to:**  
Electron Microscopy Senior  
Technical Officer

**Working pattern:**  
Full time

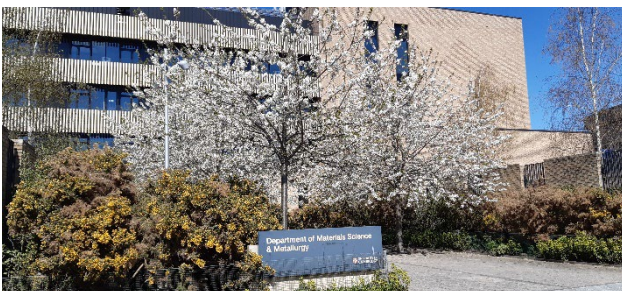
## Purpose of the role

The Wolfson Electron Microscope Suite (WEMS) is a large user facility located on the West Cambridge campus and provides a world class environment for electron microscopes. The facility team supports 3 scanning electron microscopes (SEM), 2 focussed ion beam (FIB) SEMs and 4 transmission electron microscopes (TEMs). In addition, the facility currently hosts 2 Thermo Fisher Krios cryogenic TEMs for external companies, a FIB for PDN/LMB and a cathodoluminescence (CL) SEM facility for the MSM GaN group.

The WEMS provides an essential research resource for the University as well as national and international collaborators and industrial users. The facility team also supports access schemes, such as those piloted by the Henry Royce Institute. During the last year alone, ~100 users were trained on WEMS equipment, mainly PhD students and PDRAs, with more than 250 individual training sessions, the turnover generated through user charges was ~£440k, while service contract and maintenance costs were ~£350k.

This role is to take primary responsibility for TEM instruments. The role holder ensures that instruments and ancillary equipment are maintained and achieve optimal performance, while also providing a broad range of training, access and user support activities relating to the TEMs. The role holder takes the lead with supporting sample preparation tools for TEMs. The role holder also provides support for the industrial TEM platforms located within WEMS.

The TEM Senior Electron Microscope Technician works closely with the SEM/FIB Senior Electron Microscope Technician, sharing maintenance of services such as water chillers and gas lines, as well as the role holder acts as part of the WEMS team which includes a Senior Electron Microscope Technician for SEMs/FIBs, a Technical Officer for Advanced TEMs, a Senior Technical Officer as Facility Manager, and an academic director. The team works to deliver the objectives of the WEMS facility.



## Main Duties

- Planning and delivery of training for new users (~100/year for facility as a whole) to be independent autonomous users of TEMs, sample prep and supporting equipment. This includes an induction into the safety and operational procedures for the facility, and management of user access through the PPMS booking system. Deputising for the Technical Officer when required
  - Providing practical training for users. Demonstrating techniques to students as part of undergraduate or graduate modules, or other practical research sessions. Assessing the practical class requirements (e.g. chemicals, apparatus and services) and organising their provision.
  - Providing practical support to users during sessions if required. Assisting users with advice on experiment methodology, and safe equipment operation. Optimising analytical procedures where this is needed. Defining and running experiments for internal and external users as a service
  - Maintenance and running of the laboratory, including electron microscopes, ancillary equipment and sample preparation tools. Instructing users in the correct and safe application, use and maintenance of equipment, laboratory procedures and protocols.
  - Health and safety responsibilities, including writing and reviewing Risk Assessments and operating procedures for equipment, testing of safety equipment, such as the facility tilt-alarm system, and formal responsibility for X-Ray safety in the facility. Attending training as required. Monitor access into the building and report any incidents related to H&S and security, issue temporary access cards to contractors.
  - Managing implementation of service contracts, diagnosing and reporting faults and coordinating service engineer visits for preventative maintenance and resolution of faults. Maintaining pieces of equipment that are not covered by a service contract, and servicing equipment such as water chillers, procuring spare parts as needed and performing repairs as required to maximise availability and minimise costs.
  - Providing technical support for externally owned (currently two) TEMs and associated sample preparation equipment, that are hosted in the facility.
  - Participating in commissioning and establishing new equipment and upgrades, including new electron microscopes and supporting equipment, such as glove boxes. Undertaking training to reach expert operation, in order to best maintain the equipment and support users.
  - Planning and managing purchase of consumables and repair items to maintain the smooth running of the Facility, in the framework service contracts. Maintaining laboratory stocks of consumables.
  - Considering requirements for changes to laboratory layout or procedures to better support operation and safety, and making suggestions for refurbishment or alterations.
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# Person specification

Essential or Desirable

## Experience

- Practical experience of specialised laboratory activity and equipment (Electron microscopes...) E
- Experience in providing training to groups and on a one-to-one basis. E

## Skills

- Specialist knowledge of relevant regulations and practice E
- Good IT skills – Knowledge of Microsoft Office packages E
- Demonstrate advanced knowledge of lab technician work involving a critical understanding of relevant theory and/or principles E
- Knowledge in a biological/chemistry related subject E
- Excellent Communication Skills - Able to communicate clearly with others. E

## Qualifications

GCSE level standard or equivalent including Maths and English / NVQ Level 2 or equivalent level of practical experience. E





**The Department has over 30 academic staff, (including staff extended beyond retirement age, established academic staff and early-career research fellows), approximately 50 administrative, technical and other support staff, and around 80 postdoctoral researchers, 150 postgraduate students and 20 visiting scientists at any time. Our research falls into six themes: structural materials, device materials, materials chemistry, clean energy and sustainability, medical and pharmaceutical materials and materials characterisation (particularly electron microscopy).**

In 2013 the Department moved to a new purpose-built building on the West Cambridge Site. This is the first time all academic groups have been housed together in a single building.

In the last UK Research Excellence Framework (REF 2021), for the first time, our Department was included within the Engineering Unit of Assessment (UoA), together with the Department of Chemical Engineering and Biotechnology, and the Department of Engineering. 99% of the submission as a whole was rated 'world leading' or 'internationally excellent'.

Research funding totals around £12M per annum, and come from a variety of sources: about 40% from the UK research councils and government, 40% from the EU (including a large number of European Research Council grants), 20% for industry, overseas governments and charities.

The Department offers a 3 or 4 year BA/MSci degree within the Natural Sciences Tripos (NST), with the majority of students completing the 4-year course. In year 1 the students read four subjects, in year 2 three subjects, before specialising in one subject only. Over 280 take Materials Science in year 1, over 80 in year 2, and over 25 in years 3 and 4. In addition, 15-20 students are admitted each year to the one-year MPhil in Micro- and Nanotechnology Enterprise administered by the Department. Further details of the teaching programme can be found on the teaching pages of the departmental website:

<http://www.msm.cam.ac.uk/teaching>. We are expecting between 20-30 students to be admitted to the new Taught MPhil on "Advanced Materials for the Energy Transition" (AMET) from October 2025.

We have a thriving Graduate School. Almost all postgraduate research students are working for the PhD, which they complete on average in 3.5 years. We play a prominent role in a number of centres for doctoral training, including the NanoDTC and the CDT in Computational Methods for Materials Science (in collaboration with the Department of Physics at Cambridge).

For more information: <https://www.msm.cam.ac.uk/>

# The School of the Physical Sciences

**The School of the Physical Sciences is one of the six Schools making up the academic work of the University. It comprises the following Departments: Applied Mathematics and Theoretical Physics (DAMTP), Chemistry, Earth Sciences, Geography (including the Scott Polar Research Institute), Institute of Astronomy, Isaac Newton Institute of Mathematical Sciences, Materials Sciences and Metallurgy, Physics (Cavendish Laboratory), Pure Mathematics and Mathematical Statistics (DPMMS).**

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 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 planning process, the School prepares a financial and academic plan which sets out strategic objectives, and 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.

The Office of the School of Physical Sciences is a small team led by the Head of Schools, currently Professor Nigel Peake, the School Secretary, the Director of Education and the Finance Manager. As well as the Deputy Secretary, there are currently six other staff, as well as those in the Degree Committee office. The wider School team supporting our Departments also include representatives from HR, Fundraising, and Research Operations who are assigned to the School.

The Office of the School currently occupies a suite of offices in 17 Mill Lane.

More information about the School Office and links to the websites of the School's constituent Department can be found at the SPS website:  
<https://www.physsci.cam.ac.uk>





# Terms of appointment

## Tenure and probation for assistant staff

Appointments will be made on a permanent basis. 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 CPS (Contributory Pension 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 7.2 weeks (or 36 days for those working full-time), including plus public holidays.

## 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

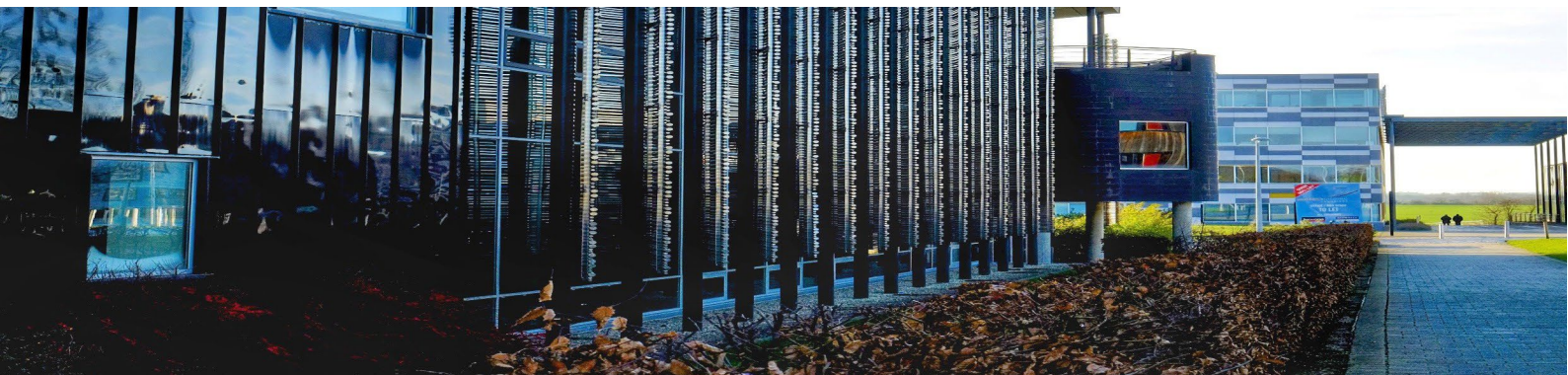
The University welcomes applications from individuals with disabilities.

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](mailto:hrenquiries@admin.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.





# 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 £1.66 billion. Research income, won competitively from the UK Research Councils, the European Union (EU), major charities and industry, exceeds £400 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

**Our ideas and innovations have shaped the world. Our campaign, 'Dear World... Yours, Cambridge', will raise £2 billion to help us shape all our futures.**

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.

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.

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

# Working at the University

**Working at Cambridge you will join a diverse, talented and innovative community, with more than 18,000 students and over 11,000 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. Furthermore, the University's Athena SWAN award recognises and celebrates good practice in recruiting, retaining and promoting women. 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 has signed up to the Race Equality Charter, a notional framework for improving the representation, progression and success of minority ethnic staff and students within higher education.



# 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.

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.

Further information about attractions in and around Cambridge can be found at [Visit Cambridge](https://www.visitcambridge.org/), the official tourism website for the city.



# 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.

## 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. CAMBens Cars and CAMBens Cycle to Work salary sacrifice schemes are also available, which enable 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 of Cambridge.

## 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.

In addition, our Ofsted rated 'outstanding' workplace nurseries, childcare vouchers, a childcare salary sacrifice scheme and a high quality holiday play scheme are available to help support University employees with caring responsibilities. 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.

## 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.



# What Cambridge can offer

## 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.



## Relocating to Cambridge

The University Accommodation Service exists to help employees in their search for a rental home in Cambridge. A new University development at North West Cambridge called Eddington offers subsidised rented accommodation to University staff. The development consists of high quality furnished one and two bedroom apartments. For more information about the development and how to apply please visit the website [www.nwcambridge.co.uk](http://www.nwcambridge.co.uk)



The importance of helping individuals settle into a new area is also recognised by the University. The Shared Equity Scheme <https://www.hr.admin.cam.ac.uk/pay-benefits/cambens-employee-benefits/financial/shared-equity-scheme> provides financial assistance to qualifying new members of staff with the purchase of living accommodation, where they have to relocate to take up their appointment. Removal expenses are also available for qualifying new members of staff.

## Equality & diversity

The University has a vibrant and varied community. We support and encourage under-represented groups and we value diversity. We welcome applications from individuals with disabilities. Our recruitment and selection procedures follow best practice. 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/>

## 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 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.



# 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.

Informal enquiries are welcomed and should be directed to:

John Walmsley and Prof Cate Ducati  
[wemsadmin@cam.ac.uk](mailto:wemsadmin@cam.ac.uk)

The closing date for applications is 2 October 2024



UNIVERSITY OF  
CAMBRIDGE