

Microscopy Specialist Information for Candidates



Sainsbury Wellcome Centre for Neural Circuits and Behaviour at UCL



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JOB DESCRIPTION

Vacancy Reference:	1873517
Job Title:	Microscopy Specialist
Department:	Sainsbury Wellcome Centre
Salary:	£44,737 - £52,764 per annum inclusive of London Allowance.
Grade:	8
Hours:	36.5 per week (full-time, 1.00 FTE)
Reports to:	Head of Advanced Microscopy Core
Available until:	Funded for two years in the first instance

About the Sainsbury Wellcome Centre

The [Sainsbury Wellcome Centre \(SWC\)](#) brings together world-leading scientists to investigate how brain circuits process information to generate perception, form memories and guide behaviour. Developed through the vision and partnership of the Gatsby Charitable Foundation and Wellcome, and with substantial investment from these partners, the mission of the SWC is to generate experimentally testable theories of brain function.

The Centre will comprise around 12 highly interdisciplinary experimental research groups accommodated in a new, purpose-designed building, offering an outstanding and unparalleled research environment. SWC scientists use a broad spectrum of the latest advances in molecular and cellular biology, imaging, electrophysiology and behavioural techniques and enjoy state-of-the-art research laboratories, cutting-edge scientific equipment, technologically-advanced prototyping and fabrication laboratories and custom in-house high-performance computing facilities. The full complement of scientists in the Centre is expected to reach around 150 together with circa 50 dedicated support staff. Further details about the Sainsbury Wellcome Centre can be found at www.sainsburywellcome.org.

The Sainsbury Wellcome Centre is part of the UCL School of Life and Medical Sciences (SLMS). SLMS brings together four UCL Faculties to create one of the largest and most prestigious aggregations of academics in biomedical, life and population health sciences

worldwide; there are nine Nobel Prize winners associated with Life Sciences at UCL. SLMS has a global reputation for teaching, informed by cutting-edge research. A full profile of SLMS can be found at <http://www.ucl.ac.uk/slms/>. SLMS is structured into four Faculties: Brain Sciences; Life Sciences; Medical Sciences; and Population Health Sciences. SWC is most closely linked with the Faculties of Brain Science and Life Sciences.

Further details about UCL can be found at www.ucl.ac.uk.

About the SWC Advanced Microscopy Facility (AMF)

The AMF provides an institute-wide platform for structural imaging of fixed tissue using widefield, confocal, 2-photon, and SPIM techniques. The facility specialises in whole-organ imaging using automated approaches, such as block-face serial sectioning or light sheet microscopy. Many of our cutting-edge tools are built in-house and we are involved in construction and maintenance of equipment throughout the institute. We support image analysis using open-source tools, often written in-house in Python or MATLAB. We have an extensive collection of equipment for teaching basic optics and two-photon imaging. The AMF offers a unique and exciting work environment.

The Role of the Microscopy Specialist

The AMF is offering an exciting and broad-ranging position to a candidate with the right blend of skills. You will be responsible for driving adoption of new imaging techniques and expanding our range of

services. In particular, you will master the latest tissue clearing techniques and establish these within the institute. This will involve setting up workflows, writing documentation, training and advising users, and assisting in the early stages of image analysis. You will help run our fleet of custom automated microscopy systems. Finally, you will be responsible for maintenance and user training of our wide-field and confocal microscopes. Our imaging facility is still new and the candidate will play an important role in developing the facility itself, in terms of strategy, operation and resourcing. The post-holder will have opportunities to form collaborations within UCL and beyond.

The post is funded for two years in the first instance.

Main Duties and Responsibilities

Core Duties

- Master a variety of clearing techniques and establish protocols and pipelines for conducting these routinely in-house.
- Select and apply appropriate clearing techniques to process samples for light sheet imaging as well as training users in these techniques.
- Assess users' projects and use your expert knowledge to assist in selecting the appropriate microscopy modality and instrument, and give introductions to systems users as needed.
- Provide documentation of design, specification and implementation of equipment, suitable for end users.
- Develop and maintain equipment and records by conducting performance tests, organising repairs, cleaning objectives, and measuring point-spread functions.
- Run samples for untrained or occasional users on our custom lightsheet or serial-section 2-photon microscopes. Become an expert user on these systems such that you can train, advise and support other users as well as troubleshoot microscope operation.
- Advise on the first steps of image processing and analysis.
- Advise, support, supervise and train on histological/immunocytochemical techniques.
- Work collaboratively with others to contribute to development of our in-house tools and streamline our processes and pipelines.

Communication and team work

- Reach out to scientists throughout the institute to gain a deep understanding of their imaging needs and independently formulate plans to meet those needs.
- Ensure end users are aware of best practices regarding image acquisition and analysis.
- Ensure scientists throughout the building are aware of what is offered by the AMF. e.g. update wiki and AMF website, and give talks as needed within the building.

Other

- Contribute to developing future strategy for the AMF, and optimising Standard Operating Procedures and budgetary planning, working with the Head of the AMF.
- Continue to update skills and education as required.
- Support the SWC's annual optics course for incoming PhD students. This may involve designing apparatus with basic optomechanics, writing course material, giving lectures on basic optical principles, etc.
- Carry out maintenance of Linux analysis machines and Windows acquisition machines within the AMF, e.g. replacing failed hard disks, ensuring locally-stored data have been backed up, or upgrading software. This will require basic knowledge of the Linux command line.
- Support the maintenance of multi-photon lasers throughout the building (checking coolant levels, changing coolant, monitoring laser power).
- Run the microscopy booking system.

The above description is not exhaustive and the post-holder will be required to undertake any other duties as may reasonably be requested within the scope, spirit and purpose of the post. Job descriptions are reviewed on a regular basis including at the annual appraisal. As duties and responsibilities change, the job description may be amended in consultation with the post-holder.

The post-holder will be expected to actively follow all UCL policies and procedures including Equality, Diversity and Inclusion, maintain an awareness of Fire and Health & Safety Regulations, attend management meetings and undertake such training and development as may be required for the post.



JOB DESCRIPTION

All staff are required to act professionally, co-operatively and flexibly in line with the requirements of the post.



PERSON SPECIFICATION

Selection Criteria

The selection criteria outline the skills, knowledge and experience required in order to perform this role. Applicants will be selected based on how well they demonstrate that they meet the essential, and if appropriate, desirable criteria for this particular role.

	Essential	Desirable
Qualifications		
A PhD, equivalent degree, or equivalent experience in neuroscience, biotechnology, engineering, or a related field, including independent research and publications	X	
Knowledge and experience		
Substantial knowledge and experience (i.e. senior postdoctoral level) in high-end microscopy through a post-graduate degree, industry, or working in an imaging facility.	X	
Substantial experience in fluorescence imaging using commercial microscopes, such as confocals, slide scanners, or wide-field systems.	X	
Demonstrated success in tissue clearing of large organs, or prior experience with complicated histology pipelines.	X	
Prior experience with lightsheet or 2-photon microscopy.		X
Skills		
Proven ability to work pragmatically, managing multiple concurrent tasks and activities, working to deadlines and prioritising as appropriate.	X	
Able to build strong collaborative working relationships with colleagues to deliver successful outcomes.	X	
Strong written and oral communication skills, with the ability to present complex information clearly and effectively.	X	
Basic proficiency at the Linux command or willingness to acquire such skills.	X	
Excellent general computer skills and willingness to master further skills as required by the role.	X	
Experience at programming with Python/NumPy or MATLAB.		X
Understanding of basic optics. Proven ability using off-the-shelf lenses to build custom microscope components such as scan heads, collection optics, beam expanders, etc.		X
Other Requirements		
Accountable, reliable and resourceful	X	
Works ethically, legally and with integrity	X	
An understanding and appreciation of the mission and research environment of the Sainsbury Wellcome Centre and Gatsby Computational Neuroscience Unit, and a commitment to building the reputation of the SWC and GCNU as world-leading research centres.	X	



HOW TO APPLY & TERMS OF APPOINTMENT

Contact Us

If you have any queries relating to the vacancy or how to apply please contact the SWC HR team, swc.hr@ucl.ac.uk.

Applying for the Role

Redeployment candidates

To begin the online application process, please access the advertisement by searching for it via the UCL Redeployment Service (<https://www.ucl.ac.uk/human-resources/working-ucl/internal-opportunities>) using the vacancy reference number.

Please complete the online application form, and use the supporting statement section to outline how you meet the selection criteria. Applications will be shortlisted based on the strength of the examples used to demonstrate that the applicant meets the selection criteria.

External candidates

To begin the online application process, please access the advertisement by searching for it on the UCL vacancy search page (<http://www.ucl.ac.uk/hr/jobs/>) using the vacancy reference number, and click on the "Apply Now" button at the bottom of the vacancy advertisement.

Please complete the online application form, and use the supporting statement section to outline how you meet the selection criteria. Applications will be shortlisted based on the strength of the examples used to demonstrate that the applicant meets the selection criteria.

Please note that there is a limit of 2,500 words to explain how you meet the essential criteria, and a limit of 2,500 words to explain how you meet the desirable criteria.

All candidates will be notified of the outcome of their application.

Pre-employment Checks

Confirmation of appointment will be subject to receipt of satisfactory references, verification of proof of right to work in the UK and to satisfactory pre-employment health and security screening. The Centre will provide overseas candidates who

may require sponsorship with support in seeking an appropriate visa.

Salary

Starting salary will be on the Grade 8 scale according to relevant skills, knowledge, experience and achievement. Staff incrementally progress along the salary scale; the effective date of incremental progression is 01 August each year. You must have completed the period of service stipulated in your contract of employment (typically your probationary period) to be eligible to increment. Incremental progression does not include the discretionary contribution points on the salary scale. Cost of living pay awards are negotiated nationally and are normally effective from 1 August each year.

Pension

Post-holders will be eligible to join Universities Superannuation Scheme (USS), subject to the Scheme's rules and eligibility conditions.

Conditions of Service

Conditions of Service for Research, Teaching and Professional Services Staff can be found at: <https://www.ucl.ac.uk/human-resources/conditions-service-research-teaching-and-professional-services-staff>.

Probation

Appointments are subject to a probationary period of 9 months.

Hours of Work and Overtime

UCL's full time working week is 36.5 hours per week. SWC is willing to consider flexible-working arrangements, subject to discussion and agreement with your line manager.

Pre-agreed overtime will be offered as equivalent time off in lieu.

Annual Leave

Staff are entitled to 27 days annual leave per year (pro rata for part-time staff). In addition, staff are entitled to 8 days public and statutory holidays, and around 6 UCL closure days with pay per year.

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Location

The Sainsbury Wellcome Centre is located in the heart of London around five minutes' walk from the main UCL campus. The mainline railway stations at Euston, King's Cross, St Pancras, Marylebone and Paddington are within easy reach as are the London Underground stations located at Warren Street and Gode Street.

Equal Opportunities

SWC is committed to the promotion of equality, diversity and inclusion for its staff, students and visitors and is fully supportive of UCL's policy; the full equality policy statement is available online:

https://www.ucl.ac.uk/human-resources/sites/human-resources/files/equal_opportunity_policy_statement.pdf.

SWC is currently working towards an [Athena SWAN](#) award.