*Oxford Anatomy & Physiology ranked #1 in QS World Rankings by subject 2017, 2018, 2020, 2021, 2022, 2023, 2024, 2025 and 2026*

# Job description and Selection Criteria

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| **Job title** | **Postdoctoral Research Scientist in AI applied to Imaging datasets** |
| **Division** | **Medical Sciences Division** |
| **Department** | **Physiology, Anatomy & Genetics** |
| **Location** | **Sherrington Building, Parks Road, Oxford, OX1 3PT** |
| **Grade and salary** | **Grade 7: £40,178 - £48,700 per annum** |
| **Hours** | **Full time** |
| **Contract type** | **Fixed-term for 2 years** |
| **Reporting to** | **Prof Ana I Domingos** |
| **Vacancy reference** | **HRIS: 189911** |
| **Additional information** | **While this is a full-time role, we welcome applications from individuals who wish to be considered for part-time working or other flexible working arrangements.** |

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| **Research topic** | Sympathetic neuroscience |
| **Principal Investigator / supervisor** | Professor Ana I Domingos |
| **Project team** | Domingos Group |
| **Project web site** | https://www.dpag.ox.ac.uk/research/domingos |
| **Funding partner** | The funds supporting this research project are provided by Wellcome. |
| **Recent publications** | 1: Zhu Y, Yao L, Gallo-Ferraz AL, Bombassaro B, Simões MR, Abe I, Chen J, Sarker G, Ciccarelli A, Zhou L, Lee C, Sidarta-Oliveira D, Martínez-Sánchez N, Dustin ML, Zhan C, Horvath TL, Velloso LA, Kajimura S, Domingos AI. Sympathetic neuropeptide Y protects from obesity by sustaining thermogenic fat. *Nature.* 2024 Oct;634(8032):243-250. doi: 10.1038/s41586-024-07863-6. Epub 2024 Aug 28. PMID: 39198648; PMCID: PMC11446830.<br>2: Martinez-Sanchez N, Sweeney O, Sidarta-Oliveira D, Caron A, Stanley SA, Domingos AI. The sympathetic nervous system in the 21st century: Neuroimmune interactions in metabolic |

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| | homeostasis and obesity. *Neuron*. 2022 Nov 2;110(21):3597-3626. doi: 10.1016/j.neuron.2022.10.017. PMID: 36327900; PMCID: PMC9986959.<br>3: Davi Sidarta-Oliveira Ana Domingos Licio A Velloso 2024 TopOMetry systematically learns and evaluates the latent dimensions of single-cell atlases *eLife* **13**:RP100361 |

## The role

Reporting to Prof Ana Domingos, the post holder is a member of a research group with responsibility for carrying out informatic research for lightsheet imaging datasets pertaining to sympathetic neuroscience, and developing analysis pipelines handling large lightsheet files, to help integrate and expand our imaging pipelines. The post holder provides guidance to less experienced members of the research group, including postdocs, research assistants, technicians, and PhD and project students.

**Flexible working**

The postholder is expected to work on-site, but they can work flexible hours.

## Responsibilities

- Train research assistants and new lab members on technical aspects pertaining to core expertise in informatics and Python
- Be proactive on streaming informatic workflows that sustain productivity and output
- Learn and be fully independent on the existing laboratory workflows, such as our 3D-Viewer running on Python, and build from it
- Manage own academic research and administrative activities. This involves small scale project management, to co-ordinate multiple aspects of work to meet deadlines
- Adapt existing and develop new analysis pipelines
- Test hypotheses and analyse scientific data from a variety of sources, reviewing and refining working hypotheses as appropriate
- Contribute ideas for new research projects or image analysis
- Develop ideas for generating research income, and present detailed research proposals to the PI
- Collaborate in the preparation of scientific reports and journal articles, in addition to leading their own 1st author publication
- Occasionally present papers and posters at scientific gatherings
- Use lightsheet scope or other equipment in a laboratory environment
- Act as a source of information and advice to other members of the group on scientific protocols and experimental techniques
- Represent the research group at external meetings/seminars, either with other members of the group or alone
- Carry out collaborative projects with colleagues in partner institutions, and research groups

**Other Duties**

- Any other duties that may be required from time to time commensurate with the grade of the job

## Selection criteria

**Essential selection criteria**

- Hold, or be close to completion of, a PhD/DPhil in Computer science, Informatics, Computational Neuroscience
- Experience programming with Python, among other
- Experience with advanced image analysis and creation of analytical pipelines

- Previous experience of contributing to publications/presentations, namely experience writing scientific papers in demonstrated by 1st author papers with image analyses
- Possess sufficient specialist knowledge in neuroscience to work within established research programmes
- Ability to manage own academic research and associated activities
- Ability to contribute ideas for new research projects and research income generation
- Excellent communication skills, including the ability to write for publication, present research proposals and results, and represent the research group at meetings
- Experience of creating collaborative and inclusive environments with people from different backgrounds.

**Desirable selection criteria**

- Experience of independently managing a discrete area of a research project
- Mouse experience and a UK-PIL
- Experience of actively collaborating in the development of research articles for publication

## Pre-employment screening

### Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/pre-employment-screening

## Hazard-specific / Safety-critical duties

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service, and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

- Night working (11pm-6am)
- Lone Working
- Regular manual handling
- Working with category 3b or 4 lasers (laser safety class)
- Work with allergens, E.g., laboratory animals, pollen, dust, fish or insects etc.
- Work with any substance which has any of the following pictograms on their MSDS:



## Additional security pre-employment checks

This job includes duties that will require additional security pre-employment checks:

- A satisfactory basic Disclosure and Barring Service check/ an Overseas Criminal Records check due to the postholder's responsibility for direct animal care
- University security screening (e.g., identity checks)

**About the University of Oxford**

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best work. Recognising that diversity is our strength, vital for innovation and creativity, we aspire to build a truly diverse community which values and respects every individual's unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. We are also recognised as leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.
For more information, please visit https://www.ox.ac.uk/about.

**The Department of Physiology, Anatomy and Genetics**

Our mission is empowering discovery in the physiological sciences to improve health and educate the next generation of doctors and biomedical scientists. For more information, please visit www.dpag.ox.ac.uk.

The Department is a large pre-clinical department within the Medical Sciences Division, with ca. 500 staff and students. It has a world-class reputation in both its research and teaching. The Department was part of the University of Oxford's Biological Sciences submission to the Research Excellence Framework 2021 that was rated top for its world-leading research. Moreover, Oxford's Anatomy and Physiology has been ranked number one in the QS World University Rankings for the past seven years.

Find out more about the Department, our work and our people at www.dpag.ox.ac.uk/team

**Research Centres/Institutes and research themes**

The Department has a distinctive, forward-looking, and integrative biomedical research programme spanning cardiac sciences, cell physiology, development and cell biology, functional genomics, metabolism and endocrinology, and neuroscience. The Department is organised into a number of research centres: the Centre for Integrative Neuroscience (Director: Professor A King FRS), the Centre for Neural Circuits and Behaviour (Director: Professor G Miesenboeck FRS), the Centre for Cellular & Molecular Neurobiology (Director: Professor Scott Waddell FRS), the Centre for Cardiac Science and Integrative Physiology (Director: Professor Manuela Zaccolo FRSB). The Department also has significant presence in two multi-disciplinary research Institutes: The Institute for Developmental and Regenerative Medicine (Director: Professor Paul Riley FRS FMedsci) and the Kavli Institute for Nanoscience Discovery (Deputy Director: Professor Dame Molly Stevens DBE FRS FREng).

The Research Centres and thematic areas bring together researchers who address a range of fundamental issues in the biosciences at molecular, cellular, tissue and systems levels of organisation. https://www.dpag.ox.ac.uk/centres

For more information, please visit www.dpag.ox.ac.uk

**Teaching and supervision**

The Department is a major contributor to the undergraduate courses for pre-clinical Medicine and Biomedical Sciences students. The Department also contributes some pre-clinical teaching to the first part of the Graduate Entry Medicine course. DPAG also offers advanced degrees (PhD/DPhil and MSc by Research) in a wide range of specialised and interdisciplinary topics across molecular, cellular and integrative neuroscience, cardiovascular physiology, cellular and whole-body metabolism, and functional genomics. We provide cutting-edge training across a diverse range of state-of-the-art methodologies in leading laboratories in the field.

**DPAG and Sustainability**

The University of Oxford's Environmental Sustainability Strategy sets two ambitious targets: to achieve net zero carbon and to achieve biodiversity net gain, both by 2035. In DPAG, we actively implement and encourage eco-friendly practices that reduce waste, promote energy efficiency, and promote bio-diversity.

DPAG has signed up to both The Laboratory Efficiency Assessment Framework (LEAF) and Green Impact. We encourage all staff and students to get involved.

For more information, please go to:

https://www.ox.ac.uk/about/how-we-are-run/sustainability

**Equality, Diversity and Inclusion in DPAG**

The Department of Physiology, Anatomy and Genetics (DPAG) is committed to promoting a diverse and inclusive community. We have an active Equality, Diversity, and Inclusion (EDI) committee and hold an Athena SWAN silver award in recognition of our gender equality efforts, which create a better working environment for all. The Department promotes family-friendly policies and supports flexible working arrangements where possible.

The University of Oxford is committed to equal opportunity, and to being a place where everyone belongs and is supported to succeed. We recognise how the diversity of our community enriches our ability to deliver on our academic mission.

We welcome applications from individuals from all backgrounds, including those under-represented within higher education. No applicant or members of staff shall be unlawfully discriminated against on the basis of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

As stated in the University's Equality Policy and Equality, Diversity and Inclusion Strategic Plan, our commitment to equality and diversity goes hand in hand with our commitment to academic freedom and free speech.

**The Medical Sciences Division**

The Medical Sciences Division is an internationally recognized centre of excellence for biomedical and clinical research and teaching. We are the largest academic division in the University of Oxford.

World-leading programmes, housed in state-of-the-art facilities, cover the full range of scientific endeavour from the molecule to the population. With our NHS partners we also foster the highest possible standards in patient care.

For more information please visit: www.medsci.ox.ac.uk

**How to apply**

Applications are made through our online recruitment portal. Information about how to apply is available on our Jobs website https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/how-to-apply

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

As part of your application, you will be asked to provide details of **two** referees and indicate whether we can contact them now.

You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants)

Please upload all documents **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** UK time on the closing date stated in the online advertisement.

**Information for internal candidates**

If you currently work for the University, please note that:

- as part of the referencing process, we will contact your current department to confirm basic employment details including reason for leaving and information about your performance
- although employees may hold multiple part-time posts, they may not hold more than the equivalent of a full-time post. If you are offered this post, and accepting it would take you over the equivalent of full-time hours, you will be expected to resign from, or reduce hours in, your other posts(s) before starting work in the new post.

**Information for priority candidates**

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing department(s).

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

**If you need help**

Application FAQs, including technical troubleshooting advice is available at: https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/support-with-online-applications

Non-technical questions about this job should be addressed to the recruiting department directly at hr@dpag.ox.ac.uk.

To return to the online application at any stage, please go to: https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/how-to-apply

Please note that you will receive an automated email from our online recruitment portal to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

**Important information for candidates**

**Data Privacy**

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: https://www.ox.ac.uk/about/how-we-are-run/policies-and-statements/policy-hub/job-applicant-privacy-policy. The University's Policy on Data Protection is available at: https://www.ox.ac.uk/about/how-we-are-run/policies-and-statements/policy-hub/data-protection-policy.

**The University's policy on retirement**

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82** of 30 September before the 70th birthday.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://unioxfordnexus.sharepoint.com/sites/OXINTRANET-working-here/SitePages/the-ejra.aspx

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

**Equality of Opportunity**

The University of Oxford is committed to equal opportunity, and to being a place where everyone belongs and is supported to succeed. We recognise how the diversity of our community enriches our ability to deliver on our academic mission.

We welcome applications from individuals from all backgrounds, including those under-represented within higher education. No applicant or members of staff shall be unlawfully discriminated against on the basis of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Employment with the University and progression within employment will be determined according to personal merit and the application of criteria related to the duties and conditions of the post. In all cases, the primary consideration will be the ability to perform the job.

As stated in the University's Equality Policy and Equality, Diversity and Inclusion Strategic Plan, our commitment to equality and diversity goes hand in hand with our commitment to academic freedom and free speech.

# Benefits of working at the University

## Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, flexible working options, support for sustainable travel and other discounts. Staff can also access a huge range of personal and professional development opportunities. See https://www.ox.ac.uk/about/jobs/working-here .

## Employee Assistance Programme

As part of our wellbeing offering staff get free access to a confidential employee assistance programme, available 24/7 for 365 days a year. Find out more at https://www.ox.ac.uk/about/jobs/life-in-oxford/healthcare-and-wellbeing

## University Club and Sports facilities

Membership of the University Club is free for University staff. It offers social, sporting, and hospitality facilities. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See www.club.ox.ac.uk and https://www.sport.ox.ac.uk/.

## Information for Staff new to Oxford

Please see our Life in Oxford webpage for information on relocating to and settling into the Oxford area. The website offers valuable guidance, including information on where to find more details about housing, transportation, finances, healthcare, and other key aspects of living in Oxford and the surrounding region. See https://www.ox.ac.uk/about/jobs/life-in-oxford

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependants. See https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/visas-and-immigration

## Family-friendly benefits

We are a family-friendly employer with one of the most generous family leave schemes in the Higher Education sector (see https://www.ox.ac.uk/about/jobs/explore-our-careers/applications-process/terms-and-conditions-of-employment Our Childcare Services team provides guidance and support on childcare provision, and offers a range of high-quality childcare options at affordable prices for staff. In addition to 5 University nurseries, we partner with a number of local providers to offer in excess of 450 full time nursery places to our staff. Eligible parents are able to pay for childcare through salary sacrifice, further reducing costs. See https://www.ox.ac.uk/about/jobs/life-in-oxford/childcare-and-schooling/childcare

## Supporting disability and health-related issues (inc menopause)

We are committed to supporting members of staff with disabilities or long-term health conditions, including those experiencing negative effects of menopause. Contact the the University's Staff Disability Advisor at staffdisability@admin.ox.ac.uk.

## Staff networks

The University has a number of staff networks including for research staff, BME staff, LGBT+ staff, disabled staff network and those going through menopause.

## The university of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk

## Research Staff

The Researcher Hub supports all researchers on fixed-term contracts. They aim to help you settle in comfortably, make connections, grow as a person, extend your research expertise and approach your next career step with confidence. Find out more https://www.ox.ac.uk/research/support/researcher-hub/about