Department of Physics
Clarendon Laboratory
Parks Road, Oxford OX1 3PU

UNIVERSITY OF OXFORD

SETI INSTITUTE

Job Description and Selection Criteria

Job title	Oxford-SETI Institute Fellow in Planetary Climate
Division	Mathematical Physical and Life Sciences
Department	Physics
Location	Denys Wilkinson Building, Oxford.
Grade and salary	Grade 7RS: £40,178 -£48,700 per annum
Hours	Full time
Contract type	Fixed-term (3 years)
Reporting to	Professors Suzanne Aigrain & Jayne Birkby
Vacancy reference	189889
Additional information	Closing date – midday on Tuesday 15 December 2026

Research topic	Modelling and/or characterization of exoplanet atmospheres, habitability and/or biosignatures.
Principal Investigator / supervisor	Professors Suzanne Aigrain & Jayne Birkby
Project team	Oxford Planets and Life (OPAL) Initiative & The SETI Institute
Project web site	www.opal.physics.ox.ac.uk / www.seti.org
Funding partner	The funds supporting this research project are provided jointly by the Department of Physics at the University of Oxford and the SETI Institute.

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The role

The fellow will join the sub-department of Astrophysics at the University of Oxford, where they will primarily be based. However, they will also become an active member of the SETI Institute's cohort of postdoctoral research fellows, and are expected to visit the SETI Institute at least once per year.

Research on exoplanets, planetary climate, and habitability at Oxford straddles multiple departments, as befits its cross-disciplinary nature. Within the Department of Physics, it falls under the Planetary Exploration research theme. In the sub-department of Astrophysics, our strengths include exoplanet detection, bulk and atmospheric characterisation, optical and infrared instrumentation for the world's largest ground-based telescopes. We work closely with colleagues in the sub-departments of Atmospheric, Oceanic and Planetary Physics (AOPP) and Theoretical Physics, who model the atmospheres of giant and terrestrial planets, study of the Solar System's giant planets, icy moons, and small bodies, develop instrumentation for space-based exploration and remote-sensing, and model planetary system dynamics. All together, we are involved in major upcoming surveys and world-leading facilities including JWST, the ELT, the PLATO and ARIEL space missions, and the Terra Hunting Experiment. We also collaborate on the search for technosignatures with members of Breakthrough Listen's Oxford Hub, which is embedded within the sub-department of Astrophysics.

Beyond the Department of Physics, this Fellowship falls under the broader umbrella of the Oxford Planets and Life (OPAL) Initiative. Launched in 2025, OPAL brings together researchers from multiple disciplines (including Mathematics, Physics, Earth Sciences, Chemistry, Biology, Natural History and the Medical Sciences) working to understand the planetary requirements that select for complex life. We ask where, when and how life evolved on our dynamic planet, where Earth falls within the cosmic diversity of all planets, and aim to make predictions for where complex life might emerge and thrive across the Universe.

The new Oxford-SETI Institute fellow will sit at the core of this diverse ecosystem. They will develop their own research programme that enhances and complements Oxford and the SETI Institute's broad range of interests. We are looking for an outstanding candidate with scientific leadership potential to work on relevant aspects of instrumentation, observation, modelling, interpretation and/or theory. We expect the Fellow to work collaboratively with staff in Oxford and at the SETI Institute, to drive forward our shared agenda of improving our understanding of Planetary Climate and Habitability.

The Fellow will have access to world-class research facilities including the University of Oxford's Advanced Research Computing (ARC) facilities and the sub-department of Astrophysics's dedicated compute cluster, as well as ground- and space-based observatories, including the European Southern Observatory (ESO), the Isaac Newton Group of Telescopes, and European Space Agency (ESA) space missions, and radio telescope facilities such as the SETI Institute's Allen Telescope Array. A generous budget will be provided for travel and research expenses.

For further information contact Suzanne Aigrain, suzanne.aigrain@physics.ox.ac.uk or Jayne Birkby, jayne.birkby@physics.ox.ac.uk or Nathalie Cabrol, ncabrol@seti.org

Responsibilities

- The postholder will design and lead an original research programme at the forefront of Planetary Climate and Habitability science.
- Contributing ideas for new research projects within Oxford Astrophysics, the broader Planetary Exploration research theme, OPAL and/or the SETI Institute, and carry them forward.
- Publishing research papers in high impact journals reporting results obtained during the fellowship, and attend national and international conferences to disseminate these results.

- The postholder will also be a full member of SETI Institute's cohort of postdoctoral fellows, and would normally be expected to spend time at the Institute for a few weeks per year, to attend training events and develop collaborations with faculty members and other fellows, with the goal of strengthening collaborative research between Oxford and the SETI Institute. Funding for this will be provided separately.
- The postholder will be expected to contribute to the academic life of the Astrophysics sub-Department, the broader Planetary Exploration research them, and/or the OPAL Initiative, through the organisation of seminar series, colloquia and journal clubs, and related community-building events, Departmental committee work or teaching assistance.
- In particular, the post-holder will have the opportunity to teach in the Oxford system to enhance their academic career. This may include lecturing, small group teaching, and tutoring of undergraduates and graduate students. Some of these roles are remunerated beyond the basic salary.

Selection criteria

Essential selection criteria

- Hold or be close to obtaining a relevant PhD / DPhil, together with relevant experience in exoplanet, planetary climate or habitability research.
- A proven record of research, commensurate with career stage, in exoplanets, planetary climate, or habitability.
- Evidence of a capacity to work independently and have sufficient specialist knowledge and technical skills to work within established research programmes.
- Evidence of the capacity to contribute new ideas for research projects and potentially generate research income.
- Excellent communication skills, demonstrated by the ability to write for publication, present research proposals and results, and represent the research group at in person and online meetings.

Desirable selection criteria

- Willingness and enthusiasm for engaging in life of the Department, through undertaking roles such as organising events and seminar series; mentoring graduate students and junior researchers; becoming involved our continual aim to improve the research culture in Oxford and the wider community.
- Ability and willingness to develop new collaborations and/or manage collaborators across multiple departments and/or institutes
- Ability and willingness to engage with school groups and/or members of the public via access and/or outreach events.

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. If you have previously worked for the University we will also verify key information such as your dates of employment and reason for leaving your previous role with the department/unit where you worked. 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

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.

Department of Physics

Oxford Physics is one of the largest and most eminent departments in Europe – pursuing forefront research alongside training the next generation of leaders in Physics.

With an academic staff of over one hundred our activities range from fundamental particles to the furthest reaches of the universe to manipulating matter on an atomic scale. Oxford physicists are probing new ways to harness solar energy, modelling the Earth's atmosphere to predict the future climate, exploring computation on the quantum scale and executing calculations that reveal the fundamental structure of space and time.

Astrophysics Sub-department

The post-holder will be based in the Astrophysics sub-department, which is one of the six sub-departments that together make up the Department of Physics; these are Astrophysics, Atomic and Laser Physics, Atmospheric, Oceanic and Planetary Physics, Condensed Matter Physics, Particle Physics and Theoretical Physics, with a seventh function (Central Physics) providing administrative and technical support to these sub-departments. Members of all sub-departments take part in research, teaching and matters such as examinations, discussion of syllabi, lectures and liaison with undergraduates and postgraduate students.

For more information please visit: http://www2.physics.ox.ac.uk/

About the SETI Institute

Founded in 1984, the SETI Institute is a nonprofit, multidisciplinary research and education organization whose mission is to lead humanity's quest to understand the origins and prevalence of life and intelligence in the universe and to share that knowledge with the world. Its research encompasses the physical and biological sciences and leverages expertise in data analytics, machine learning and advanced signal detection technologies. Headquartered in Mountain View, California at the heart of Silicon Valley, the SETI Institute is a distinguished research partner for industry, academia and government agencies, including NASA and the National Science Foundation.

Mathematical, Physical & Life Sciences Division

The Mathematical, Physical and Life Sciences (MPLS) Division is one of the four academic divisions of the University of Oxford.

The MPLS Division's 10 departments and 3 interdisciplinary units span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research addresses major societal and technological challenges and is increasingly focused on key interdisciplinary issues. We collaborate closely with colleagues in Oxford across the medical sciences, social sciences and humanities, and with other universities, research organisations and industrial partners across the globe in pursuit of innovative research geared to address critical and fundamental scientific questions.

For more information please visit: http://www.mpls.ox.ac.uk/

Athena Swan Charter

The Department of Physics holds a Gold Athena Swan award to recognise advancement of gender equality: representation, progression and success for all.

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. Your referees should be asked to send their letters, before the application deadline, to leanne.odonnell@physics.ox.ac.uk

You will be asked to upload a brief cover letter, a CV (2 pages max.), a list of publications, a supporting statement (3 pages max.), and a research proposal (3 pages max). 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). The research proposal should outline the programme of research you propose to carry out during the fellowship.

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 at 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 *Physics Recruitment recruitment@physics.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.

Equal 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 University's Staff Disability Advisor at staffdisability@admin.ox.ac.uk for further information.

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