

Job Description and Selection Criteria

Job title	Project Manager for Oxford Physics Space Instruments
Division	Mathematical Physical and Life Sciences
Department	Physics
Location	Clarendon Laboratory, Parks Road, Oxford, OX1 3PU.
Grade and salary	Grade 07S: £36,024 - £44,263 p.a With a discretionary range to £48,350 p.a
Hours	Full time
Contract type	Fixed-term (3 years) with strong possibility of renewal until project end date
Reporting to	Keith Nowicki (Senior Space Projects Manager)
Vacancy reference	173757
Additional information	Closing date – 23 July 2024

For Research posts: Include table below **only** where relevant to role.

Research topic	Space Instrumentation design, build and test
Principal Investigator / supervisor	Neil Bowles
Project team	Comet Interceptor MIRMIS/ARIEL
Project web site	https://www.physics.ox.ac.uk http://harmoni-web.physics.ox.ac.uk
Funding partner	The funds supporting this research project are provided by UKSA
Recent publications	



Background

The University of Oxford's Department of Physics have a long (>50 years) involvement in the development and delivery of flight hardware for numerous space projects. Instruments and sub-systems from Oxford have been sent to Venus, Earth orbit, into orbit and onto the surface of the Moon and Mars and out to Jupiter and Saturn. We host a complete design, development, and test facility to support our instrument science programmes and work with industry and national international space agencies (e.g. NASA, UK Space Agency, ESA). Our group includes the Infrared Multilayer Laboratory that designs and manufactures infrared filters for our own infrared instruments and a wide range of customers including Airbus, NASA's Jet Propulsion Laboratory and ESA.

Example projects that the you will be involved in include the Lunar Thermal Mapper for NASA's Lunar Trailblazer mission, optical ground test equipment for ESA's Ariel space telescope and the MIRMIS instrument that is part of ESA's Comet Interceptor mission

The role

We are seeking a Project Manager who will support our instrument and sub-system development programmes. This is an exciting opportunity to join our team and help develop the next generation of space instrumentation and components.

You will be responsible for, and provide day-to-day management for a team of optics specialists, systems engineers, mechanical engineers, workshop technicians, cryogenics specialists and PhD students who will be engaged with the detailed design, component procurement, assembly, integration and testing of our instrumentation modules. You will be assisted by specialist services in the Oxford Physics department (e.g. Personnel, Finance) and the University administration (e.g. tendering, contracts, VAT / duties)

In addition, you will provide monthly reports to the various project offices at e.g. ESA and the UKSA on technical progress, and quarterly formal reports to the UK Space Agency. You will be responsible for managing the schedule, and the hardware procurements, including budgets. Quarterly financial reporting of spend (both effort and cash) is also required.

Responsibilities

- **Manage the space instruments team** by setting specific tasks, and ensuring seamless collaboration amongst the discipline specialists (optics, mechanics, systems engineering). Ensure that schedule milestones are met, whilst maintaining compliance with requirements.
- **Deliver documents** / updates to documents for key milestones as required. In addition, ensure that information describing the design, procurements, component tests, prototype tests, etc. is fully documented, and ingested into the space instruments Sharepoint Document repository. Also maintain interface drawings and documents with other parts of the instrument, and ensure compliance.
- **Communicate the project status** (i.e. provide reporting), on the technical, financial and schedule aspects to the Project Office (systems engineers and project managers), the UKSA oversight committees, ESA and other stakeholders. Quarterly technical and financial reports to the observatory are a formal requirement.
- **Manage the procurements** for the purchased optics, mechanics, and cryogenic items. This will involve tenders for the high value components, in accordance with the University's regulations. You will also help manage the fabrication of mechanical components made in-house.

- **Manage the timeline** for the space instrumentation work, and ensure that major milestones are met (final design review, manufacturing readiness review, integration readiness reviews). Advise and inform the Space Instruments senior project manager about slips, risks and opportunities.
- **Manage the costs** for the space instrumentation work, both in terms of hardware procurements, and the effort needed. Inform and advise the Space Instruments senior Project Manager about changes.
- **Manage assembly and test phases:** Create and maintain plans for how instrument modules for our various instruments will be assembled, aligned, and tested (at room temperature / in cryo chambers) prior to sub-system integration and verification. This involves coordinating activity in multiple laboratories / clean rooms, and liaising closely with the systems engineers and instrument scientist.

Pre-employment screening

All offers of employment are made subject to standard pre-employment screening, as applicable to the post.

If you are offered the post, you will be asked to provide proof of your right-to-work, your identity, and 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 so that we can discuss appropriate adjustments with you), and a declaration of any unspent criminal convictions.

We advise all applicants to read the candidate notes on the University's pre-employment screening procedures, found at: www.ox.ac.uk/about/jobs/preemploymentscreening/.

Selection criteria

- *Significant experience in carrying out a project management role (preferably for a space instrumentation project), including working with international partners.*
- *Proven expertise in all areas of project management, including project planning, financial reporting, technical reporting, procurement management and liaison with external vendors.*
- *Well developed communication skills in written documents and oral presentations*
- *Excellent skills in influencing and negotiating, particularly with reference to technical procurements.*
- *Superb decision-making and problem-solving skills.*
- *Leadership qualities, including line-management of a focussed team.*
- *Knowledge of, and exposure to systems engineering process in an instrument / product development context*

Desirable selection criteria

- *Membership of a Professional Project Management body (i.e. APM or PMI) and / or project management course accreditation (e.g. PRINCE2).*
- *Substantial experience in managing projects, including working with international partners.*
- *Experience working in an academic / research environment (e.g. University, national laboratory, research institute, technical institute)*

- *Masters degree in Physics or Engineering or equivalent qualification and experience in technical project management.*
- *Demonstrated abilities in data analysis / scientific computing, particularly with relation to use of data bases.*

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.jobs.ox.ac.uk/pre-employment-checks>

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:

- Working at heights
- Night working (11pm-6am)
- Lone Working
- Driving on University business
- Work with any substance which has any of the following pictograms on their MSDS:



- Travel outside of Europe or North America on University Business

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 www.ox.ac.uk/about/organisation.

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. The department also provides state-of-the-art facilities, including mechanical and electronics workshops, an engineers group, helium liquefier, thin-film coating plant, photo-fabrication facilities, clean rooms, nano-fabrication facilities and many specialised research laboratories. Members of all sub-departments take part in research, teaching and matters such as examinations, discussion of syllabi, lectures and supervision of undergraduates and postgraduate students.

Astrophysics Instrumentation is a vibrant group with major stakes in two very large projects, the ELT and the SKA. In addition, we also play a leadership role in the WEAVE spectrograph for the WHT. We have a world-renowned group in Terahertz detectors, and significant involvement in the CTA. We are also involved in the R&D for the ELT exoplanet instrument, PCS. We have a leadership role in the HARMONI instrument, with a large team (~14) of motivated people including scientists, engineers and D.Phil students. Past successes of Astrophysics instrumentation include the KMOS and FMOS multi-object spectrographs, the SWIFT integral field spectrographs in the visible / near-infrared, and several CMB experiments at microwave frequencies.

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

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 silver 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.jobs.ox.ac.uk/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 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://staff.web.ox.ac.uk/recruitment-support-faqs>

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

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

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://compliance.admin.ox.ac.uk/job-applicant-privacy-policy>. The University's Policy on Data Protection is available at: <https://compliance.admin.ox.ac.uk/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**, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: <https://hr.admin.ox.ac.uk/the-ejra>.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: <https://hr.admin.ox.ac.uk/the-ejra>.

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

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Benefits of working at the University

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See <https://hr.admin.ox.ac.uk/staff-benefits>

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club 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

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service website includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See <https://welcome.ox.ac.uk/>. There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependants. See <https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme>

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives. See <https://hr.admin.ox.ac.uk/my-family-care>

The University has excellent childcare services, including five University nurseries as well as University-supported places at many other private nurseries.

For full details, including how to apply and the costs, see <https://childcare.admin.ox.ac.uk/>

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see <https://edu.admin.ox.ac.uk/disability-support>

Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at <https://edu.admin.ox.ac.uk/networks>

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation 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.