|  |  |
| --- | --- |
| Job title | 3D Printing Engineer |
| Division | Mathematical, Physical and Life Sciences Division |
| Department | Engineering Science |
| Location | Thom Building, Department of Engineering Science |
| Grade and salary | Grade 7 £31,604 - £38,833 p.a. |
| Hours | Full time |
| Contract type | Fixed-term (2 years to set up new laboratory) |
| Reporting to | Head of Teaching and Design Support Group |
| Vacancy reference | 135387 |
| Additional information | This role will not attract sufficient points to obtain a sponsored tier 2 visa under the points based immigration system, however applications are welcome from candidates who don’t currently have the right to work in the UK, but who would be eligible to obtain a visa via another route  No relocation expenses apply to this post. |

### The role

The Department of Engineering Science is seeking to expand its experimental provision by opening a new 3D printing laboratory. This will be a large facility with machines from entry level to advanced research machines. It is expected that there will initially be 15-20 machines. The space will be used for a wide range of purposes, including undergraduate laboratories and research work, but a key new feature will be the availability of this space to all members of the department for their own projects, either individual or group. The intention is to provide, for the first time, a space for members of the department to be able to explore ideas and to create things that are not explicitly part of a course syllabus or a funded research project.

You will set up and manage this facility, ensuring that machines are kept up to date, supplied and functional, being responsible for Health and Safety and liaising with all academics using the space. In addition, you will be actively involved in the design and provision of undergraduate teaching, and encourage the wider use of 3D printing within the department, both as part of and outside the syllabus. Therefore, you will need excellent knowledge of this new area of 3D printing and the related technology. There is thus a wide scope for exploring new ideas and becoming involved in a number of projects, including the possibility to engage in research to a limited extent.

The role is currently fixed-term whilst the success of the laboratory is monitored and evaluated and the long-term needs are assessed.

### Responsibilities

* Manage the set-up of the 3D printing laboratory, e.g. writing operating procedures, implementing health and safety requirements, supporting installation of machines and the effective use of space.
* Be responsible for the smooth running and maintenance of the 3D printing laboratory, providing an attractive and efficient working space.
* Operate the machines with precision and use and interpret CAD to prepare engineering drawings.
* Develop an induction and training programme for users of this working space (e.g. technicians, students and academics)
* Develop and provide users with training in the running of specific machines.
* Organise and demonstrate on undergraduate teaching in the department including 3D printing aspects of the 1st year Mechanical Lab, and CAD aspects of the Drawing and Design lab.
* Organise and demonstrate on a 3D printing Coursework Module in the laboratory.
* Provide consultancy on 3D printing/additive manufacturing and design engineering advice to third and fourth year undergraduate project teams.
* Support research work by providing expert advice to research staff where required, including providing information on the latest developments with the technology.
* Set up the teaching laboratory before each practical class, including all necessary equipment and supplies.
* Liaise with academic staff in organising demonstration staff and facilitating arrangements for practical classes.
* Liaise with academic and Faculty office staff in relation to teaching administration and activities.
* Ensure that arrangements for practical classes are kept up to date e.g. equipment, staffing, class lists etc.
* Liaise with providers and assist in arranging service contracts, warranties, parts etc.; follow departmental purchasing and supplier policies. Contribute to gathering information for specifications for equipment purchases.
* Be a point of reference for users of the laboratory, providing technical support to the full range of machines and troubleshoot problems; ensure that you maintain the relevant level of technical knowledge.
* Ensure that all machines are maintained in good working order, are fully supplied and up to date.
* Write and review operating procedures as required.
* Log and monitor the activity and resource usage in the laboratory to report on utilisation and co-ordinate re-charging as required.
* Ensure that all Health and Safety requirements are adhered to at all times and that reporting is up to date.
* Liaise with the Departmental Safety Officer as required and keep up to date on laboratory safety practice.
* Work flexibly to provide one evening shift per week during Full Term for student-related activities.
* Pro-actively work collaboratively with other technical staff, sharing specialist knowledge.
* Attend relevant meetings as requested.
* Promote and encourage the wide use of 3D printing within the Department.
* Take part in departmental outreach events, organising and running specific activities and have an active role in open day events.
* Any other duties which are commensurate with the role.

**Hazard-specific / Safety-critical duties**

This job includes the following hazard-specific or safety-critical duties which will require successful pre-employment health screening through our Occupational Health Department before appointment of the successful candidate:

* Regular manual handling
* Safety-critical work / other hazards

## Selection criteria

### Essential

* Educated to at least degree level in a relevant discipline (e.g. engineering) or equivalent experience in 3D printing. Including knowledge of additive manufacturing and design engineering.
* A good knowledge and understanding of 3D printing and relevant programming, its practicalities and potential that can be applied to teaching and research.
* Experience of working with and maintaining 3D printing equipment including the preparation of input files for running 3D printing jobs.
* Experience in the use of CAD-CAM software (SolidWorks preferred).
* Experience of working in a laboratory environment.
* Experience of teaching or laboratory demonstrating at university level or equivalent.
* An enthusiasm for teaching and motivating students.
* Ability to troubleshoot problems and to develop effective solutions.
* Strong attention to detail.
* Excellent written and oral communication skills.
* Ability to organise own workload and to take initiative as appropriate.
* Knowledge of Health and Safety regulations in a laboratory environment.

### Desirable

* Experience of undergraduate laboratory supervision.
* Experience in the use of basic scientific software (e.g. Matlab).
* Experience in designing courses or laboratories using 3D printing

**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, and in providing all of our staff with a welcoming and inclusive workplace that supports everyone to develop and do their best work. Recognising that diversity is a great strength, and 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. Income from external research contracts in 2014/15 exceeded £522.9m and ranked first in the UK for university spin-outs, with more than 130 spin-off companies created to date. 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](http://www.ox.ac.uk/about/organisation)

### Engineering Science Department

Engineering teaching and research takes place at Oxford in a unified Department of Engineering Science whose academic staff are committed to a common engineering foundation as well as to advanced work in their own specialities, which include most branches of the subject. We have especially strong links with computing, materials science and medicine. The Department employs about 90 academic staff (this number includes 13 statutory Professors appointed in the main branches of the discipline, and 25 other professors in the Department); in addition there are 9 Visiting Professors. There is an experienced team of teaching support staff, clerical staff and technicians. The Department has well-equipped laboratories and workshops, which together with offices, lecture theatres, library and other facilities have a net floor area of about 22,000 square metres. The Department is ranked third in the world in the latest *Times Higher Education World University Rankings*, behind Caltech and Stanford, but ahead of MIT (4th), Cambridge (5th), Princeton (6th) and Imperial (7th).

*Teaching*

We aim to admit 160-170 undergraduates per year, all of whom take a 4-year Engineering Science course leading to the MEng degree. The course is accredited at MEng level by the major engineering institutions. The syllabus has a common core extending through the first two years. Specialist options are introduced in the third year, and the fourth year includes further specialist material and a major project.

*Research*

The Department was ranked the top engineering department in the UK, as measured by overall GPA, in the Research Excellence Framework 2014 exercise. We have approximately 350 research students and about 130 Research Fellows and Postdoctoral researchers. Direct funding of research grants and contracts, from a variety of sources, amounts to an annual turnover of approximately £19m in addition to general turnover of about £18m. The research activities of the department fall into seven broad headings, though there is much overlapping in practice: Thermofluids; Materials and Mechanics; Civil and Offshore; Information, Control and Vision; Electrical and Optoelectronic; Chemical and Process; Biomedical Engineering.

For more information please visit:

<http://www.eng.ox.ac.uk/>

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

**The Mathematical, Physical, and Life Sciences Division**

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. In the results of the six-yearly UK-wide assessment of university research, REF2014, the MPLS division received the highest overall grade point average (GPA) and the highest GPA for outputs. We received the highest proportion of 4\* outputs, and the highest proportion of 4\* activity overall. More than 50 per cent of MPLS activity was assessed as world leading.

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. MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe.  We have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships

We have around 6,000 students and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (<http://www.oxfordsparks.net/>) and a large variety of outreach activities. We also endeavour to bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: <http://www.mpls.ox.ac.uk/>

## How to apply

Before submitting an application, you may find it helpful to read the ‘Tips on applying for a job at the University of Oxford’ document, at [www.ox.ac.uk/about/jobs/supportandtechnical/](http://www.ox.ac.uk/about/jobs/supportandtechnical/).

If you would like to apply, click on the **Apply Now** button on the ‘Job Details’ page and follow the on-screen instructions to register as a new user or log-in if you have applied previously. You will then be required to complete a number of screens with your application details, relating to your skills and experience. When prompted, please provide details of **two** referees (one of which must be your current or most recent employer/supervisor) and indicate whether we can contact them at this stage. You will also be required to upload a supporting statement which explains how you meet the selection criteria for the post.

**Supporting Statement**

The supporting statement should describe your skills and experience relevant to the post. These may have been gained through employment, education/training, voluntary/community work or you may have taken time away from these activities in order to raise a family, care for a dependent, or travel for example. Your application will be judged solely on the basis of how you demonstrate that that you meet the selection criteria outlined above and we are happy to consider evidence of transferable skills or experience which you may have gained outside the context of paid employment or education. *We will short list for interview those whose applications best demonstrate that the applicant meets the selection criteria, so it is important that you use your supporting statement to explain clearly, point by point, how you match them.* Please note that a copy of a CV will not be accepted as substitute for a supporting statement and that inclusion of the statement is a mandatory step in the online application process.

**References**

Please give the details of people who can provide a reference for you. If you have previously been employed, your referees should be people who have managed you, and at least one of them should be your formal line manager in your most recent or current job. Otherwise they may be people who have supervised you in a recent college, school, or voluntary experience. It is helpful if you can tell us briefly how each referee knows you (e.g. ‘line manager’, ‘college tutor’). Your referees should not be related to you.

We will assume that we may approach them at any stage unless you tell us otherwise. If you wish us to ask for your permission before approaching a particular referee, or to contact them only under certain circumstances (for example, if you are called to interview) you must state this explicitly alongside the details of the relevant referee(s).

If you currently work, or have previously worked, for the University of Oxford, we will also take up a reference from the head or administrator of the previous employing department. This will be in addition to taking references from the referees you have provided.

6

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

All applications must be received by **midday** 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 departments.*

*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)*

Should you experience any difficulties using the online application system, please email [recruitment.support@admin.ox.ac.uk](mailto:recruitment.support@admin.ox.ac.uk). Further help and support is available from [www.ox.ac.uk/about\_the\_university/jobs/support/](http://www.ox.ac.uk/about_the_university/jobs/support/). To return to the online application at any stage, please go to: [www.recruit.ox.ac.uk](http://www.recruit.ox.ac.uk/).

Please note that you will be notified of the progress of your application by automatic emails from our e-recruitment system. **Please check your spam/junk mail** regularly to ensure that you receive all emails.

## Important information for candidates

**Pre-employment screening**

Please note that the appointment of the successful candidate will be subject to standard pre-employment screening, as applicable to the post. This will include right-to-work, proof of identity and references. 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/](http://www.ox.ac.uk/about/jobs/preemploymentscreening/).

**The University’s policy on retirement**

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. From 1 October 2017, the University has adopted an EJRA of 30 September before the 69th birthday for all academic and academic-related staff in posts at grade 8 and above. The justification for this is explained at: [www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revaim/](http://www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revaim/).

For **existing** employees, any employment beyond the retirement age is subject to approval through the procedures: [www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/](http://www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/)

Form 1 October 2017, there is no normal or fixed age at which staff in posts at **grades 1–7** 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**

## University Club and sports facilities

The University Club provides social, sporting and hospitality facilities. It incorporates a bar, café and sporting facilities, including a gym. 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](http://www.club.ox.ac.uk) and [www.sport.ox.ac.uk/oxford-university-sports-facilities](http://www.sport.ox.ac.uk/oxford-university-sports-facilities).

## Information for international staff (or those relocating from another part of the UK)

If you are relocating to Oxfordshire from overseas, or elsewhere in the UK, the University's International Staff website includes practical information related to moving to and settling in Oxford such as advice on immigration, relocation, accommodation, or registering with a doctor.

See: [www.internationalstaffwelcome.admin.ox.ac.uk/](http://www.internationalstaffwelcome.admin.ox.ac.uk/)

## 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 to settle into Oxford and to provide them with an opportunity to meet people in the area. See [www.newcomers.ox.ac.uk/](http://www.newcomers.ox.ac.uk/)

## Childcare

The University has excellent childcare services with 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 [www.admin.ox.ac.uk/childcare](http://www.admin.ox.ac.uk/childcare/).

## Family-friendly benefits

The University subscribes to My Family Care ([www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/)) and staff are eligible to register for emergency back-up childcare and adultcare services, a 'speak to an expert' phone line and a wide range of guides and webinars through a website called the Work + Family space.

## Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. Please visit [www.admin.ox.ac.uk/eop/disab/staff](http://www.admin.ox.ac.uk/eop/disab/staff) for further details including information about how to make contact, in confidence, with the University’s Staff Disability Advisor.

## 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 [www.admin.ox.ac.uk/eop/inpractice/networks/](http://www.admin.ox.ac.uk/eop/inpractice/networks/)

## Other benefits

Staff can enjoy a range of other benefits such as free visitor access to the University’s colleges and the Botanic Gardens as well as a range of discounts.

See [www.admin.ox.ac.uk/personnel/staffinfo/benefits](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits)