Job Description

ENGINEERING SCIENCE

<table>
<thead>
<tr>
<th>Job title</th>
<th>Oxford Biodesign Healthcare Innovation Research Assistants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>Mathematical, Physical and Life Sciences Division</td>
</tr>
<tr>
<td>Department</td>
<td>Engineering Science</td>
</tr>
<tr>
<td>Location</td>
<td>Institute of Biomedical Engineering, Headington</td>
</tr>
<tr>
<td>Grade and salary</td>
<td>Grade 7: £31,604 - £38,833 per annum</td>
</tr>
<tr>
<td>Hours</td>
<td>Full time</td>
</tr>
<tr>
<td>Contract type</td>
<td>Fixed term for 9 months (with the possibility of a 3 month extension)</td>
</tr>
<tr>
<td>Reporting to</td>
<td>Oxford Biodesign Programme Directors</td>
</tr>
<tr>
<td>Vacancy reference</td>
<td>136569</td>
</tr>
<tr>
<td>Additional information</td>
<td>Reimbursement of relocation costs for postdoctoral positions is only available where allowed on the project.</td>
</tr>
</tbody>
</table>

The role

The Oxford Biodesign Programme creatively combines on-the-job training in biodesign principles mentored by world experts with the development of biodesign prototypes which may subsequently be taken forward for clinical translation or scaled up into commercial products. It aims to fill a current gap in the Oxford healthcare technologies innovation landscape. We are looking to recruit Innovation Fellows from different disciplines to join the programme.

Responsibilities

Specific Tasks
- Scope out extended needs in a designated clinical area.
- Generate a prioritized list of clinical needs factoring in stakeholder requirements such as safety, market size, cost-effectiveness, and benefit to end-user.
- Develop and implement candidate biodesign prototypes to the selected healthcare need.
- Write a comprehensive report on the final biodesign product covering the technology, intellectual property, market, and next commercialisation steps.
• Present final product and its commercialisation pathway to a biodesign assessment panel.
• Work effectively with others in your team on the above being prepared to lead and be a team player on different parts of the project.
• Attend and actively contribute to all Biodesign Programme sessions and workshops.
• Perform occasional demonstrations to industrial or academic visitors or sponsors.
• Act as an ambassador of the Biodesign Programme at professional meetings.

Additional Tasks

• 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 scientific techniques and experimental protocols
• Test hypotheses and analyse scientific data from a variety of sources, reviewing and refining working hypotheses as appropriate
• Contribute ideas for new research projects
• Act as a source of information and advice to other members of the group on scientific protocols and experimental techniques
• Represent the Biodesign at external meetings/seminars, either with other members of the group or alone
• The researcher may have the opportunity to undertake ad-hoc paid teaching (this includes lecturing, demonstrating, small-group teaching, tutoring of undergraduates and graduate students and supervision of masters projects in collaboration with principal investigators). Permission must be sought in advance for each opportunity and the total must not exceed 4 hours a week.
• Any other duties appropriate with the role.

This job description should be viewed as a guide to the role and is not intended as a definitive list of duties. It may be reviewed in light of changing circumstances with consultation with the post holder.

Selection criteria

Essential

• Depending on your primary area of current expertise either (1) A first class or upper second class honours degree in engineering or science, (2) or a primary medical degree, or (3) a Masters in Business Administration, or equivalent industry experience.

• For the primary interest (1) – engineering and science
  o Excellent programming skills (C++, Matlab) and demonstrated ability to translate design specs to prototypes.
  o Evidence of ability to rapidly prototype and test solutions to specification.

• For the primary interest (2) – clinical medicine
  o Evidence of ability to design clinical pilot studies, secure ethics approval for studies, and experience of translational research.
• For primary interest (3) - business
  o A strong MBA degree result (UK or international equivalent as recognised by UK NARIC) from a recognised university, or a strong track record of work in digital or biomedical industry.
  o Ability to think critically, logically and integrate ideas, and have a good awareness of economic, healthcare and international affairs.

• Background and experience of working across disciplines in an inter-disciplinary team.

• Experience of or significant demonstrated interest in healthcare entrepreneurship.

• Excellent communication skills (including the proven ability to write in English at a suitable standard for the preparation of written reports and to contribute to discussions with collaborators and scientists in different fields).

Desirable

• For the primary interest (1) – engineering and science: an MSc in engineering or science.

• Experience of independently managing a discrete area of a large research project.

• Experience of actively collaborating in the development of research articles for publication.

• Knowledge of Intellectual Property.

• Experience of working in or with industry.

• Experience of evaluation of a healthcare technology.

Overview of the Oxford Biodesign Programme

The Oxford Biodesign Programme is a joint initiative between the Oxford University Hospitals NHS Foundation Trust and the Division of Mathematical Physical and Life Sciences (through the Institute of Biomedical Engineering).

The role of biomedical technology in the delivery of healthcare is growing exponentially, and this exciting new programme aims to develop a critical mass of skilled biomedical entrepreneurs trained to turn needs-based concepts into commercially successful products.

The Oxford Biodesign Programme will help build this capacity by providing highly selected graduates with intensive training in the development and commercialization of biomedical technologies. It builds on Oxford University’s long history of successful commercial developments in the biomedical sector. Oxford faculty members will deliver the Oxford Biodesign Programme supported by guest lecturers and mentors from the biomedical technology industry and other relevant sectors. The 9-month fellowship begins with an extended needs assessment exercise in a designated clinical area, followed by the generation of a list of clinical needs, prioritized on the basis of the magnitude of the need, the likelihood of benefit and safety, the potential cost-effectiveness and the projected market size. From this list, candidate technology concepts are generated, prototypes built and final products selected for development.
The University

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

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 120 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.oxfordspark.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/.

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. Please provide details of two referees and indicate whether we can contact them now.
You must upload a CV and a supporting statement. The supporting statement should explain how you meet 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).

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

**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).

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. Further help and support is available from 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.

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/.

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/.

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/

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 and 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/

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/

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)