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| Last updated: | April 2023 |

**JOB DESCRIPTION**

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| Post title: | **Lecturer – Advanced X-ray Computer Tomography (XCT) Systems and Applications** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2311 - Higher education teaching professionals | | |
| School/Department: | Engineering/Mechanical Engineering/Bioengineering Sciences | | |
| Faculty: | Faculty of Engineering and Physical Sciences (FEPS) | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 5 |
| \*ERE category: | Balanced portfolio | | |
| Posts responsible to: | Head of Bioengineering Sciences | | |
| Posts responsible for: | Research staff | | |
| Post base: | Office-based | | |

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| Job purpose |
| To undertake research in line with the School/Department research strategy, to teach at undergraduate and postgraduate level, and to undertake leadership, management and engagement activities.  To develop scholarship, research and enterprise in line with the Faculty’s research strategy to support teaching within a research led environment at undergraduate and postgraduate level.  In education the ability to develop and deliver a range of innovative teaching and assessment approaches. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | Plan and coordinate an interdisciplinary research programme in the area of **Advanced X-ray Computer Tomography (XCT) Systems and Applications**. Act as principal investigator on projects, responsible for defining original research objectives, developing and managing staff, and attracting funding through bids and reputation. Develop and oversee the application of innovative and creative research methodologies and techniques that add to the knowledge and understanding of the subject area. | 40 % |
|  | Establish a national reputation for research and the enhancement of learning and teaching practice by sustaining the regular dissemination of findings through leading peer-reviewed publications, presenting results at conferences, or exhibiting work at other appropriate events. |
|  | Plan and develop innovative research proposals, projects and funding bids as self-contained items or as part of a broader programme. |
|  | Carry out management and administrative tasks associated with specified research funding, including risk assessment of project activities, organisation of project meetings and documentation and preparation of annual reports. To oversee and implement procedures required to ensure accurate and timely formal reporting and financial control. |
|  | Support the teaching objectives of the School/Departmentby managing a range of contributions to its learning and teaching activities. Deliver teaching of the highest quality across a range of modules and to all levels, through lectures, tutorials, practicals and seminars. | 40 % |
|  | Directly supervise students, providing expert advice on learning best practice and helping with learning problems. Identify the learning needs of students and define learning objectives. Promote the use of appropriate media to support student learning. Set and mark coursework and exams, providing constructive feedback to students. |
|  | Monitor, evaluate and revise course design to ensure excellence and coherence. Identify areas where current provision is in need of revision or improvement, planning and developing innovative contributions to learning, teaching and assessment methods within the School/Department as appropriate. |
|  | Contribute to the efficient management and administration of the School/Department by performing personal administrative duties as allocated by the Head and by taking on appropriate School/Department coordination roles. | 10 % |
|  | Provide expert advice in own subject area to other staff and students. | 5 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Member of the School/Department Board, Examination Board and of such School/Department committees relevant to their administrative duties.  New appointees will be assigned a senior colleague to guide their development and aid their integration into the School/Department, Faculty and University.  Research priorities will be agreed within the strategic framework of the research theme of which they are a member.  Teaching and administrative duties will be allocated by the Head of School/Department, within the context of the teaching programmes agreed by the School/Department Learning and Teaching Committee. |

| Special Requirements |
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| To attend national and international conferences for the purpose of disseminating research results.  To be available to participate in residential fieldwork, in the UK or overseas, according to own area of subject specialism. A normal expectation would be of one such course per annum. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in X-ray imaging, engineering, physical sciences, biological imaging or related subjects.  Growing and consistent national reputation in Advanced X-ray Computer Tomography (XCT) Systems and Applications with an emphasis on biomedical applications  Track record of developing and delivering teaching at undergraduate and postgraduate level.  Demonstrated success in delivering learning outcomes.  Track record of published research | Experience in: Micro-focus XCT system development; Correlative imaging; Advanced image processing (e.g. reconstruction, automated feature extraction); Use of the above for a wide range of biological and medical application  Teaching qualification (e.g. PGCAP or equivalent)  Membership of Higher Education Academy.  Involvement in national and international events | CV. |
| Planning and organising | Proven ability to plan and develop a range of high quality research and teaching activities, ensuring plans complement broader research and education strategy.  Able to develop innovative research proposals and attract research funding.  Proven ability to plan, manage, organise and assess own teaching contributions.  Proven ability in the design of course units, curriculum development and new teaching approaches in the School/Department. |  | Presentation,  Interview,  CV. |
| Problem solving and initiative | Able to identify broad trends to assess deep-rooted and complex issues.  Able to apply originality in modifying existing approaches to solve problems. |  | Interview |
| Management and teamwork | Able to manage, motivate and coordinate research team, delegating effectively. Able to formulate staff development plans, if appropriate.  Proven ability to manage and deliver own course units and team-taught course units.  Proven ability to coach and support students/tutorial groups.  Able to undertake coordinating role in School/Department/University.  Able to monitor and manage resources and budgets.  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. |  | Interview. |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience.  Track record of presenting research results at group meetings and conferences.  Track record of delivering lectures and seminars in courses relating to different aspects of (subject area).  Able to engage counselling skills and pastoral care, where appropriate.  Able to persuade and influence at all levels in order to foster and maintain relationships, resolving tensions/ difficulties as they arise. | Able to provide expert guidance to colleagues in own team, other work areas and institutions to develop understanding and resolve complex problems. | Presentation,  Interview,  CV. |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.  Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  | Interview. |
| Special requirements | Able to attend national and international conferences to present research results. |  | Interview. |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |