|  |  |
| --- | --- |
|  |  |

**JOB DESCRIPTION**

|  |  |  |  |
| --- | --- | --- | --- |
| Post title: | **Research Fellow** | | |
| Service: | Optoelectronics Research Centre/Zepler Institute | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Professor of Optoelectronics | | |
| Posts responsible for: | None | | |
| Post base: | Office-based/Non Office-based (see job hazard analysis) | | |

|  |
| --- |
| Job purpose |
| To undertake both fundamental and applied research into advanced fibre designs and novel fibre devices for programmable spatial and polarization beam shaping to optimize the performance of fibre laser systems with the specified research project. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Design and implement various spatial and polarization beam shaping to enhance the performance of fibre laser systems, aligning with the objectives of the EPSRC Programme Grant “Smart Fibre Optic High-Power Photonics (HiPPo)”.  Conduct experiments and simulations to evaluate the effectiveness of beam and polarization shaping technologies as outlined in the agreed research programme. | 1. % |
| 2. | Report periodically upon progress in project meetings, both orally and in writing.  Publish results in leading scientific journals and at national and international conferences, and exhibit work at other appropriate events. | 1. % |
| 3. | Carry out administrative tasks associated with the project, for example, risk assessment of research activities, organisation of project meetings and documentation. | 5 % |
| 4. | Collaborate/work on research tasks with industrial and academic partners. Support the development of future grant proposals | 5 % |
|  | Any additional responsibilities agreed upon with the line manager | 5 % |

| Internal and external relationships |
| --- |
| * Work closely with other members of the group, and collaborate effectively with other groups both within and outside of the Centre * Interact with external sponsors * Supervise students if required * Work with the technical support staff to ensure efficient and safe operation of the fibre fabrication facility |

| Special Requirements |
| --- |
| * Knowledge of silica fibre fabrication is highly desirable * Knowledge of experimental techniques for characterising doped fibres and preforms, and lasers and amplifiers is highly desirable * Will be required to work in cleanrooms safely using specialised materials and equipment. * May be required to attend national and international conferences to disseminate research results.   *Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of* ***Senior Research Assistant*** *will be given.* |

**PERSON SPECIFICATION**

|  |  |  |  |
| --- | --- | --- | --- |
| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in physics or engineering.  Experience in fibre technology.  Proven track record of excellence in research.  Experience in laboratory experimentation, including critical evaluation and interpretation of data. | PhD or equivalent professional qualifications and experience in fibre optics, fibre lasers or laser physics.  Practical experience conducting research with optical fibres, fibre lasers, or beam shaping.  Theoretical understanding of light propagation in optical fibres and fibre nonlinearities.  Experience with optical design and simulation software (e.g. COMSOL, BPM, Zemax, etc.) | Application and interview |
| Planning and organising | Able to organise own research activities to meet deadlines and standards required for scientific projects, as well as proficient in operating complex equipment and processes. |  | References and interview |
| Problem solving and initiative | Able to develop an understanding of complex problems and apply in-depth knowledge to address them.  Able to develop original techniques/methods. |  | References and interview |
| Management and teamwork | Able to contribute to administrative processes.  Able to supervise the work of junior research staff.  Work effectively within a team, understanding the strengths and weaknesses of others to contribute to teamwork development. |  | References and interview |
| Communicating and influencing | Ability to communicate new and complex information effectively, both verbally and in writing, while actively engaging and generating the interest and enthusiasm of the target audience.  Able to present research results at group meetings and conferences.  Able to write up research results for publication in leading peer-reviewed journals.  Ability to work proactively/collaboratively with colleagues and other work areas/institutions, contributing specialist knowledge to achieve outcomes. |  | Application and interview |
| Other skills and behaviours | Motivated and enthusiastic work ethic.  Understanding of relevant health & safety standards.  Positive attitude to colleagues and students. |  | Interview |
| Special requirements | Able to attend national and international conferences to present research results.  Physically able to work in a cleanroom environment. |  | Interview |

**JOB HAZARD ANALYSIS**

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

|  |  |
| --- | --- |
| 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.

|  |  |  |  |
| --- | --- | --- | --- |
| **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 |  |  |  |