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| Last updated: | 15/10/2018 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow on Optical Fibre Communications** | | |
| Service: | 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) | | |

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| Job purpose |
| To undertake experimental/numerical research on a Research Council funded project targeting the development of nonlinear optical signal processing techniques for communication signals. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop and carry out experimental/numerical research on the development of techniques to process optical communication signals, including the mitigation of transmission impairments. Responsibilities include the establishment of novel testbeds, effective experimentation using existing test equipment and facilities, including the NDFF testbed, interaction with the research team in the telecommunications systems laboratory, as well as in-house fabricators, reviews of the literature, critical evaluation and interpretation or scientific/engineering data and results. | 70 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for refereed journals, presenting results at conferences, or exhibiting work at other appropriate events. | 5 % |
|  | To carry out administrative tasks associated with the project, for example, risk assessment of research activities, participation in project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting. | 5 % |
|  | Collaborate/work on research tasks with industrial and academic partners, establish key roles of responsibility in new collaborations, as they develop. | 15 % |
|  | Any other duties agreed in collaboration with the line manager | 5% |

| Internal and external relationships |
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| Direct responsibility to the Principal Investigator on the project and have regular meetings with the project partners. It is anticipated that close collaborations will be established with the project partners at Aston University. Work in collaboration with the various teams and industrial partners involved in the Project. |

| Special Requirements |
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| To be available to participate in fieldwork as required by the specified research project.  To attend national and international conferences for the purpose of disseminating 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**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in fibre optics or photonics.  Hands on experience of handling, cleaving and splicing of optical fibres.  Hands-on experience on using high-speed communications equipment.  Detailed knowledge in optical fibre communication systems and nonlinear optics, with an emphasis on their applications in communications.  Critical evaluation and interpretation of data  Systems design and measurement | Detailed knowledge in the areas of optical transmission, fibre lasers and amplifiers.  Expertise in characterising photonic components.  Expertise in numerical modelling of optical systems. | Application and interview |
| Planning and organising | Excellent organisational and time management skills. |  | 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 Academic Unit management and administrative processes.  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. |  | References and interview |
| Communicating and influencing | Ability to communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience.  Able to present research results at group meetings and conferences.  Demonstrable published research in leading peer-viewed 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 | Understanding of relevant Health & Safety issues.  Positive attitude to colleagues and students. |  | 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 |  |  |  |