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| Last updated: | May 2021 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow -** (ANAGRAM) | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2119 - Natural and social science professionals | | |
| School/Department: | Zepler Institute | | |
| Faculty: | Faculty of Engineering and Physical Sciences (FEPS) | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Principal Research Fellow (EPSRC NIA “ANAGRAM” holder) | | |
| Posts responsible for: | Some supervision of junior research staff and PhD students | | |
| Post base: | Office-based | | |

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| Job purpose |
| To undertake research in accordance with the specified research project under the supervision of the award holder. To undertake leadership, management and engagement activities. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | To develop and carry out an area of personal research. | 10 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events. | 5 % |
|  | Contribute to the writing of bids for research funding. | 15 % |
|  | Investigate models and approaches to test and develop them. | 30 % |
|  | Collaborate/work on original research tasks with colleagues in other institutions. | 5 % |
|  | Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control. | 5 % |
|  | Supervise the work of junior research staff. | 20 % |
|  | Carry out occasional undergraduate supervision, demonstrating or lecturing duties within own area of expertise, under the direct guidance of a member of departmental academic staff. | 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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| Responsibility to CEF Research director.  Responsibility to the Grant Holder  Responsibility for reporting and liaison to external funding bodies or sponsors.  As a senior member of the project team, will coordinate the day-to-day activities of research and technician staff under the guidance of the project director.  Collaborators and colleagues in other work areas and institutions. |

| Special Requirements |
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| 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 integrated circuit design  Detailed understanding and knowledge of mixed signal design  Track record of published research | MEng/MSc in Electronics or closely related subject  Solid background in AI/ML  Knowledge of knowledge graphs  Experience of Tensorflow or similar  Contributing to teaching at postgraduate level  Fluent in carrying out end-to-end mixed mode circuit design and testing.  Fluent in IC design CAD tool use.  Fluent in test bench design (hardware, programming and execution).  Solid base in embedded system design.  Solid base in programming in: (C or Verilog) and Python.  Solid base in understanding the basics of Artificial Intelligence (AI)/Machine Learning (ML).  In silico Machine Learning.  Memristive technologies (ideally metal-oxide RRAM).  Commercially astute | *Application and Interview* |
| Planning and organising | Proven ability to organise a range of high quality research activities to deadline and quality standards, ensuring plans complement broader research strategy  Proven ability to develop innovative research proposals and attract research funding | Industrial project management techniques incl. documentation preparation and planning. | *Application and Interview* |
| Problem solving and initiative | Able to identify broad trends to assess deep-rooted and complex issues  Able to develop original techniques/methods | Able to drive research from concept to finished product (paper, product, report, etc.) | *Application and Interview* |
| Management and teamwork | Able to manage, motivate and coordinate research team, delegating effectively. Able to formulate staff development plans, if appropriate  Able to undertake coordinating role in Academic Unit/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  Able to persuade and influence at all levels in order to foster and maintain relationships  Able to resolve 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 |  | *Interview* |
| Other skills and behaviours | Compliance relevant Health & Safety issues  Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  |  |
| 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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| ☐x 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 |  |  |  |