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**Job Description**

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| **Job title** | Research Assistant |
| **Department/School** | Mechanical Enginering |
| **Job family** | Education and Research |
| **Grade** | 6 |
| **Reporting to** | Principal Investigator (PI) or Co-Investigator (CI) for area of research  |
| **Responsible for** | No staff management responsibilities |
| **Location** | University of Bath premises  |

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| **Background and context** |
| This post will undertake research work within the Institute of Advanced Automotive Propulsion Systems (IAAPS). The contract will be split by two Innovate UK projects. Both projects will focus on the innovative design of power electronics converter and its control in machine drive. The main role is to support HiVE4HD project with the capability to carry out simulation and theoretical study to develop a modelling work of multilevel converter for heavy duty vehicle. Another role of the candidate is to support the research and development work to deliver a multistage power converter design and build a high-speed drive test platform to validate the design. |

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| **Job purpose** |
| To provide subject-specific research assistance to a Principal Investigator (PI)/Co-Investigator (CI) and their research team for a specified grant.  |

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| **Main duties and responsibilities**  |
| **1** | Power electronic system and product development including requirements definition, trade studies, design and analysis, and demonstration prototypes through to initial production.  |
| **2** | Contribute to a wide range of electrical technologies for high integrity, power dense designs including key enabling technologies to facilitate power dense converters operating in high-voltage and high-speed drive system. |
| **3** | Develop, implement, and validate power systems and sub-systems operating in both generation and motoring applications, |
| **4** | Contribute to the design and execution of the project e.g. timetabling and meeting project milestones; participating in regular discussions with collaborative partners. Generate, collect, and analyse existing data related to the project using qualitative and/or quantitative techniques. |
| **5** | Writing up results of research and contributing to publishing of results in high-quality peer-reviewed academic literature. |
| **6** | Power electronic system and product development including requirements definition, trade studies, design and analysis, and demonstration prototypes through to initial production.  |
|  | Contribute to a wide range of electrical technologies for high integrity, power dense designs including key enabling technologies to facilitate power dense converters operating in high-voltage and high-speed drive system. |

**Person Specification**

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| **Criteria** | **Essential** | **Desirable** |
| **Qualifications** |  |  |
| A first degree (BA/BSc) in a subject relevant to the research activity | √ |  |
| Master level qualification |  | √ |
| **Experience/Knowledge** |  |  |
| Relevant work experience in a related area to the project |  | √ |
| Demonstrated depth and breadth of specialist knowledge of subject matter to effectively contribute to the research programme | √ |  |
| Demonstrated awareness of latest developments in the field of research | √ |  |
| **Skills** |  |  |
| Ability to organise and prioritise own workload to meet required deadlines | √ |  |
| Ability to write research reports and to effectively disseminate outcomes | √ |  |
| Excellent verbal, interpersonal and written communication skills | √ |  |
| Highly competent in IT packages as appropriate to discipline/area of research | √ |  |
| **Attributes** |   |  |
| Commitment to working within professional and ethical codes of conduct | √ |  |
| Innovation and developing creative solutions  | √ |  |
| Self-confidence when communicating with a wide range of stakeholders  | √ |  |
| Commitment to safe working practices | √ |  |
| Ability to work independently  | √ |  |
| Commitment to excellence in research | √ |  |
| Ability to be an effective team worker | √ |  |