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**Job Description**

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| **Job title** | Research Associate |
| **Department/School** | Mechanical Engineering |
| **Job family** | Education and Research |
| **Grade** | 7 |
| **Reporting to** | Dr Rick Lupton |
| **Responsible for** | There may be a requirement for:day to day supervision of other staff e.g. technical staff or, co-supervision of doctoral or undergraduate students  |
| **Location** | University of Bath premises  |

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| **Background and context** |
| The Department of Mechanical Engineering at the University of Bath wishes to appoint a Research Associate to work on a research programme called *C-THRU* involving five universities/partners. *C-THRU* aims to deliver foresight on the future interventions and innovation opportunities in the petrochemical sector required to minimize greenhouse gas (GHG) emissions, through creating a comprehensive, reliable and transparent account of current and future emissions.The Research Associate will support this exciting research project through their skills in collaboratively developing and implementing mathematical models, with a particular focus on accommodating uncertainty and poor information. They will be instrumental in building an integrated database of global and regional activities and emissions from the petrochemical sector, drawing together and integrating information from other modelling teams in the project. |

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

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| **Main duties and responsibilities**  |
|  | Responsible to the PI/CI for (as appropriate to discipline):  |
| **1** | Conduct individual and/or collaborative research projects. 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. |
| **2** | Writing up results of research and contributing to the publication of results in high-quality peer-reviewed academic literature. |
| **3** | Disseminating results of research project as appropriate to the discipline through activities such as* overseas research visits
* conference presentations
* public engagement activities
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| **4** | Participate in departmental/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders. Support the project effectively by timetabling and meeting project milestones.  |
| **5** | Assist with the supervision of postgraduate students and undergraduate project students and the assessment of student knowledge. |
| **6** | Continually update knowledge and understanding in field or specialism to inform research activity. |
| **7** | Identify sources of funding and provide assistance with preparing bids to funding bodies. Develop ability to secure own funding e.g. travel grants.  |
| **8** | Contribute to the development of research objectives and proposals for own or joint research projects, with assistance of a mentor, if required. |
| **9** | Disseminate knowledge of research advances to inform departmental teaching. |
| **10** | Develop databases of resource flows and stocks (e.g. using Material Flow Analysis approaches), which account for uncertainty and poor data.  |
| **11** | Collaborate with other groups to integrate data and information from their work in different parts of the supply chain into the integrated database, and feed back gaps and requirements from this point of view. |
| **12** | Facilitate the use of research results to communicate insights and support decision-making, for example through linking to existing data visualisation tools. |
|  | You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance.  |

**![logo-uob-resize[1]]() Person Specification**

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| **Criteria** | **Essential** | **Desirable** |
| **Qualifications** |  |  |
| A PhD[[1]](#endnote-1) degree in subject area of direct relevance for the project, or equivalent significant relevant experience and professional qualification | √ |  |
| **Experience/Knowledge** |  |  |
| Post doctoral experience |  | √ |
| Demonstrated significant depth and breadth of specialist knowledge of subject matter to contribute to research programmes and to the development of departmental research activities | √ |  |
| Demonstrated awareness of latest developments in the field of research and in research design | √ |  |
| Demonstrated potential to publish in high quality, peer reviewed journals | √ |  |
| Knowledge and experience of systems analysis of environmental impacts associated with engineering processes (e.g. life-cycle assessment, material flow analysis, or similar). |  | √ |
| Background knowledge / interest in the chemicals sector and industrial climate change mitigation measures. |  | √ |
| Experience of open research / open-source software development practices |  | √ |
| **Skills** |  |  |
| Ability to prepare research proposals, to conduct individual research work and to disseminate results |  | √ |
| Ability to organise and prioritise own workload to meet required deadlines | √ |  |
| Ability to write research reports and to effectively disseminate outcomes | √ |  |
| Excellent oral, interpersonal and written communication skills | √ |  |
| Proficiency in appropriate techniques (as appropriate to discipline) | √ |  |
| Proficiency in IT skills (as appropriate to discipline) | √ |  |
| **Attributes** |   |  |
| Commitment to working within professional and ethical codes of conduct | √ |  |
| Innovation and developing creative solutions  | √ |  |
| Commitment to excellence in research | √ |  |
| Enthusiasm and self-motivation | √ |  |
| Tenacity – working to achieve own and team objectives and to overcome obstacles  | √ |  |
| Ability to be an effective team worker | √ |  |
| Commitment to safe working practices | √ |  |

1. *If you have not yet been awarded your PhD, you will need to have submitted your thesis; passed your viva (with or without minor corrections) and receive confirmation of your PhD award within 6 months of appointment.*  [↑](#endnote-ref-1)