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

**Job Description**

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| **Job title** | Research Associate |
| **Department/School** | Mechanical Engineering  |
| **Job family** | Education and Research |
| **Grade** | 7 |
| **Reporting to** | Dr Vimal Dhokia (PI) and Dr Elies Dekoninck (CI) |
| **Responsible for** | Responsible for using the developed Fluently ontology to map the human-robot use cases and provide human centred design support for the human-robot training programmes. This will involve working with our European partners to define a training programme within the Fluently Robo-Gym in SUPSI (Switzerland). There will also be some research work related to developing the human data requirements within the ontology which will feed in to the training programme.  |
| **Location** | University of Bath premises  |

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| **Background and context** |
| We are seeking a Research Associate to join our team to work on an exciting digital manufacturing focused EU project, ‘Fluently’. The vision of Fluently is to explore the latest advancements in AI to achieve the next generation of collaborative robots with new forms of human interaction. The consortium consists of 21 EU partners. Please see this link for a detailed overview of the project: <https://cordis.europa.eu/project/id/101058680>Our role is to create data models and ontologies to digitally describe product/processes, human metrics/ behaviours, sensors and robotic equipment and associated applications. We will define the different production scenarios (collected information from industrial use cases), map this information and create information models that will form the backbone of the Fluently human-robotic collaboration system. This will digitally link the production aspects together with the different Fluently systems and enable the realisation of a metalanguage that is interpretable by robots, machines and humans within a given production scenario. The successful applicant will be working with existing researchers in Bath and a team of EU partners based in mainland Europe. The position will require some travel to mainland Europe to collaborate on research with both industrial and academic partners. You will be working on a day-to-day basis with academic staff, 2 post-doctoral researchers and PhD students. This role will suit you if you:* hold a PhD degree, or an equivalent professional qualification in a subject area of direct relevance for the project (human centred design, training programme development, digital manufacturing, computer science, data science, data modelling),
* have previous experience of one or more of the following: human centred design, information and data modelling, ontologies and information standards applied to design and manufacturing applications,
* are self-motivated and possess project management and technical communication skills,
* have some experience of computer programming languages used for robotics research (e.g. C++/ Python etc.)
* Have some knowledge of semantic mapping, ontology related software (e.g., Protégé)
* have experience in broadly related research areas.

You may also co-supervise MSc and undergraduate students undertaking research in the area of digital manufacturing.The role will require excellent professional engineering and project management skills for interfacing with the Fluently European project partners.  |

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| **Job purpose** |
| To provide human centred design support to help develop the Fluently training proogramme and testing of the developed Fluently ontology (information model). To also work with the team on modelling human data constructs within the developed ontology. This work will be reported to the Principal Investigator (PI) and Co-Investigators at the University of Bath.  |

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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
 |
| **4** | Participate in departmental/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders. |
| **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. |
|  | 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 | √ |  |
| **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)