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**Job Description**

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| **Job title** | Research Associate |
| **Department/School** | Architecture and Civil Engineering |
| **Job family** | Education and Research |
| **Grade** | 7 |
| **Reporting to** | Dr Kevin Paine (PI) and Dr Richard Ball (CI) |
| **Responsible for** | Day to day supervision of other staff e.g. technical staff or co-supervision of doctoral or undergraduate students may be required. |
| **Location** | University of Bath premises  |

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| **Background and context** |
| The Resilient Materials for Life (RM4L) research project is a large, interdisciplinary programme grant funded by the EPSRC as a collaboration between Bath, Cardiff, Cambridge and Bradford universities. The aim of the project is to achive a transformation in construction materials using a biomimetic approach to create materials that will adapt to their environment, develop immunity to harmful actions, self-diagnose the on-set of deterioration and self-heal when damaged. |

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| **Job purpose** |
| The purpose of this position is to develop concrete that is capable of self-identifying micromechanical changes and the on-set of damage. A number of sensor types will be utilised and we have experience in the use of piezoelectric senors, graphene sensors and impedance spectroscopy. Further developments may utilise functional electrically conductive fillers as intrinsic sensing materials. The research associate will be expected to liaise with our project partners to ensure successful dove-tailing of individual work-packages and broader project aims.  |

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| **Main duties and responsibilities**  |
|  | Responsible to the PI/CI for:  |
| **1** | Conduct individual and collaborative research projects. Take a lead in the experimental design and execution of the project. Collect and analyse existing data related to the project using qualitative and/or quantitative techniques. |
| **2** | Writing up results of research and contributing to publishing of results in high-quality peer-reviewed academic literature. |
| **3** | Project management: e.g. timetabling and meeting project milestones; participating in regular discussions with collaborative partners. Liaise with key stakeholders/industrial partners and conduct focus groups. |
| **4** | Disseminating results of project as appropriate to the discipline e.g. by presentations at conferences, overseas research visits, public engagement activities.  |
| **5** | Participate regularly in group meetings and prepare and deliver presentations to project team, internal and external stakeholders or funders. |
| **6** | Assist with the supervision of graduate students and undergraduate project students and the assessment of student knowledge. |
| **7** | Continually update knowledge and understanding in field or specialism to inform research activity. |
| **8** | Identify sources of funding and provide assistance with preparing bids to funding bodies. Contribute to securing of own funding e.g. travel grants.  |
| **9** | Develop research objectives and proposals for own or joint research, with assistance of a mentor if required. |
| **10** | Disseminate knowledge of research advances to inform departmental teaching effort. |
| **11** | 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 degree in subject area of direct relevance for the project, or an equivalent professional qualification and significant relevant experience where applicable. | √ |  |
| **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 | √ |  |
| Ability to write research reports and to effectively disseminate outcomes | √ |  |
| Excellent oral, interpersonal and written communication skills | √ |  |
| Proficiency in experimental 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  | √ |  |
| Enthusiasm and self-motivation. | √ |  |
| Organisation – able to plan and deliver work to meet required deadlines | √ |  |
| Tenacity – working to achieve own and team objectives and to overcome obstacles  | √ |  |
| Ability to be an effective team worker | √ |  |