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**Job Description**

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| **Job title** | Research Associate: Life Cycle Assessment and Development of Sustainable Construction Products |
| **Department/School** | Architecture & Civil Engineering |
| **Job family** | Education and Research |
| **Grade** | 7 |
| **Reporting to** | Dr. Stephen Allen (Principal Investigator) |
| **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** |
| This new Grade 7 Post-Doctoral Research Associate (PDRA) post will become a member of an international multi-disciplinary team of researchers transforming the constructor sector from the existing, and unsustainable, take-make-waste model to a circular model that keeps products and materials in use instead of becoming waste. The research project is funded by the European Commission and runs from December 2023 to May 2027. This is a full-time position, initially for 24 months fixed term, and available from May 2024. The main objective of the project is to develop fully-functioning prototypes construction products and façade elements, and demonstrate them in an operational environment ten innovative construction products. The products include large rammed earth blocks, recycled fired and non-fired bricks (with/without bio-sourced insulation), hybrid straw- clay boards, recycled concrete blocks, prefabricated waste wood external and internal wall elements, smart windows with recycled glass and bio-PUR frames, bio-based prefabricated curtain walls, recycled waste paper and textile fibre insulation mats, bio-based recycled insulation sheet panels/infill, and second life PV panels. The Bath research team is responsible for life cycle assessment of a selection of the innovative products (the focus of this advertised position), as well as the co-design, testing, implementation, monitoring and development of innovative prototype bio-based lower carbon façade solutions. |

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| **Job purpose** |
| This Grade 7 Post-Doctoral Research Associate (PDRA) will specifically be responsible for:* Life cycle assessment (LCA) and simplified life cycle costing (LCC) of innovative construction products, including collaboration with product manufacturers for primary data collection
* Collaborating with project partners who are undertaking social LCA and combining all three (LCA, LCC and sLCA) into a comprehensive sustainability assessment
* Contributing to definition of resource assessment methodology and key-performance indicators for INBUILT’s building-level platform
* Integrating product-level LCA/LCC/sLCA results into building-scale 3D BIM model

Experience in, or willingness to support, the testing and monitoring also underway at Bath would be desirable but is not essential. |

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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. |
| **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\* 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 | √ |  |
| Experience of using LCA in an industrial/commercial environment, ideally in the construction sector |  | √ |
| **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 | √ |  |

 *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.*