

## Job Description

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| <b>Job title</b>         | Research Associate   |
| <b>Department/School</b> | Department of Architecture & Civil Engineering   |
| <b>Job family</b>        | Education and Research   |
| <b>Grade</b>             | 7  |
| <b>Reporting to</b>      | Principal Investigator (PI) or Co-Investigator (CI)  |
| <b>Responsible for</b>   | Day to day supervision of other staff e.g. technical staff or supervision of doctoral or undergraduate students may be required. |
| <b>Location</b>          | University of Bath premises  |

### Background and context

This exciting position is for a post-doctoral research associate to work for a 14-month fixed term contract on a large project funded by EPSRC, with the potential to make a lasting impact on the lives of millions of people. The project's vision is to decouple building energy use from economic growth in developing countries through a new science of Zero Peak Energy Building Design for warm climates, with India as a case study. The key objective, therefore, is to provide 'thermal stress free' living conditions whilst minimising mean and peak demand.

This post is to construct detailed energy models of a series of buildings for which POE data are being collected in the case study country. As part of this, a range of novel fabric, cooling and heating technologies will require integrated assessment, along with risk analysis covering potential costs (capital and running), technology availability, embodied energy, industrial skill requirements, logistical constraints, and societal acceptability (by using data from a large-scale survey). This work will utilize newly generated current and future weather files to grade design strategies and technologies by the potential to reduce peak and mean energy demand, and spread of geographical applicability. The post holder will be required to coordinate activities between countries and contribute to other work.

The successful candidate will have a first degree and doctorate in architectural engineering or civil engineering. Strong knowledge of Energy+ coupled with an ability to use it programmatically would be highly advantageous. Above average paper output for their career stage is essential. In addition to the core scientific tasks listed above, the applicant will also be required to support work on other aspects of the project, as directed by the investigators, and undertake a series of impact related activities, which may require periodic travel outside the UK. We are therefore looking for enthusiastic and committed individuals with strong people skills to work in a multi-disciplinary team consisting of building physicists, architects, computer scientists, weather scientists, psychologists and others.

You will join the EDEn (Energy and Design of Environments) research group within the

Department of Architecture and Civil Engineering, but work closely with other co-investigators, including those in the developing country. For more information on EDEn, see <http://www.bath.ac.uk/ace/eden>.

This post is available on a full-time basis, but we are happy to consider other arrangements. For an informal discussion about the position please contact Dr Sukumar Natarajan ([s.natarajan@bath.ac.uk](mailto:s.natarajan@bath.ac.uk)).

### 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.

### Main duties and responsibilities

|    |   |
|----|---|
|    | Responsible to the PI/CI for (as appropriate to discipline):  |
| 1  | Conduct individual and/or 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 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.   |
| 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 funds for research.  |
| 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.  |

## Person Specification

| Criteria  | Essential | Desirable |
|---|-----------|-----------|
| <b>Qualifications</b>   |           |           |
| A PhD degree in subject area of direct relevance for the project, or an equivalent professional qualification (and significant relevant experience where applicable).                 | √         |           |
| <b>Experience/Knowledge</b>   |           |           |
| 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   | √         |           |
| <b>Skills</b>   |           |           |
| 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)   | √         |           |
| <b>Attributes</b>   |           |           |
| 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  | √         |           |

