**UNIVERSITY of BATH**

**Job Description: Research Associate**

|  |  |
| --- | --- |
| **Job title:** | Research Associate |
| **Department/School:** | Mathematical Sciences |
| **Grade:** | GBP 32,004-38,183 per annum (grade 7) |
| **Location:** | Claverton Down Campus, University of Bath |

|  |
| --- |
| **Job purpose**  Applications are invited for a 3-year postdoctoral Research Associate position at Prob-L@B in the Department of Mathematical Sciences at the University of Bath. The post-holder will work under the supervision of Professor Andreas Kyprianou, Dr. Simon Harris and Dr. Alex Cox and alongside a PhD student working on related material. The successful applicant will take up the post no earlier than 1st March 2017. (a later start date is negotiable) The position is funded by the EPSRC project "**Stochastic analysis of the neutron transport equation and applications to nuclear safety**". You will contribute to a broad programme of work looking at the fundamental mathematical properties of the neutron transport equation by considering its relationship with a specific class of Markov branching particle processes that describes the underlying fission process. In particular, one of the main objectives is to understand the spectral properties of the neutron transport equation and how the underlying branching process can motivate new Monte-Carlo simulation algorithms which have direct applicability in the nuclear safety industry. Stochastic numerical analysis of these algorithms will be needed and the scope of the project incorporates numerical work, including performing large-scale simulations and comparing their efficiency with existing simulation techniques. In this respect, the project will be carried out in consultation with industrial partner Amec-Foster-Wheeler. There will also be space within the appointment for you to develop your own research agenda.  Candidates must have a PhD (or equivalent qualification) in Probability Theory and demonstrable experience of research in a related field to the theme of the postdoc position. You will join Prob-L@B, one of the UK’s leading and most vibrant centres of probability consisting of 10 faculty, five postdocs (excluding this position) and around 20 PhD students. The post-holder will be a highly motivated individual who will also contribute well to Prob-L@B and the Department of Mathematical Sciences as a whole. In particular, it is expected that the candidate will play an active role in helping to sustain collective research activities within Prob-L@B (reading groups, workshops, seminars etc.). |

|  |
| --- |
| **Source and nature of management provided** |
| You will report to the project Principal Investigator, Andreas Kyprianou, Co-Investigators Alex Cox and Simon Harris as well as the Head of Department. |

|  |
| --- |
| **Staff management responsibility** |
| *None.* |

|  |
| --- |
| **Special conditions** |
| *None.* |

|  |  |
| --- | --- |
| **Main duties and responsibilities** | |
| Research | * You will conduct individual and collaborative research of high quality in probability theory. * You will continually update your knowledge and understanding in the wider area of the project to inform research activity. * You will publish in high quality, peer reviewed journals appropriate to the discipline. * You will disseminate the research at national and international conferences, e.g. by presentations. * You will assist the Principle Investigator and Co-Investigators in preparing a pathway for impact of this research. * You will assist the Principle Investigator with project management: e.g. organising meetings and corresponding/discussing with partners. * You will identify sources of funding and contribute to securing of funds for project related research. * You will develop research objectives and proposals for your own or joint research, with assistance of a mentor if required. |
| Others | * You will from time to time be required to undertake other duties of a similar nature commensurate with the grade of appointment as reasonably required by your line manager. |

**Person Specification**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criteria** | **Essential** | **Desirable** | **Assessed by** | | |
|  |  |  | **A/F** | **I** | **T** |
| **Qualifications**  PhD or equivalent in probability. |  |  |  |  |  |
| **Experience/Knowledge**  Demonstrated potential for excellence in research  Published papers in high quality, peer reviewed journals  Engagement with relevant national and international research communities  Experience with stochastic simulation |    |    |      |          |  |
| **Skills**  Excellent presentation and communication skills  Leadership, organisational and administrative skills |  |  |  |    |  |
| **Attributes**  Versatility, innovation and the ability to work in multidisciplinary teams  Commitment to collaborative and interdisciplinary research |  |    |    |    |  |

**Code:** A/F - Application form, I - Interview, T – Test (presentation)