

## Research Associate

Job Ref: REQ171226

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

### Job Description

**Job Grade:** Specialist and Supporting Academic, Grade 6

**Job Purpose:** To study the diffusion of fission products in nuclear graphite. The work involves modelling nuclear graphite with the key tasks listed below.

#### Job Duties

- To conduct molecular dynamics (MD) and DFT computer simulations to understand the electronic structure and energy landscapes of the fission products in nuclear graphite.
- To model these effects using a long-time scale method such as kinetic Monte Carlo methods and energy barrier calculations.
- To investigate the applicability of the various models.
- To discuss the results and their interpretation, as appropriate.
- To interact effectively with the experimental collaborators in the project.
- To disseminate non-confidential results both at conferences and in the scientific literature.
- To liaise with staff members, research students to ensure objectives and milestones within the project are met.
- To undertake tasks assigned by the Principle Investigator.

#### Points to Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

#### Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

#### Organisational Responsibility

Reports to the Principle Investigator.

## Person Specification

Your application will be reviewed with respect to meeting the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

- 1 – Application
- 2 – Test/Assessment Centre/Presentation
- 3 – Interview

### Essential Criteria

| Area                        | Criteria                                                                                                     | Stage |
|-----------------------------|--------------------------------------------------------------------------------------------------------------|-------|
| <b>Experience</b>           | Experience of conducting research in modelling in materials science.                                         | 1, 3  |
|                             | Experience of publishing research outcomes.                                                                  | 1, 3  |
|                             | Experience with molecular dynamics and Monte-Carlo models.                                                   | 1, 3  |
| <b>Skills and Abilities</b> | Ability to publish in international journals.                                                                | 1, 3  |
|                             | Oral communication skills sufficient to present material at International meetings.                          | 3     |
|                             | Strong analytical mathematical skills.                                                                       | 1, 3  |
|                             | Competence of programming in C, FORTRAN or a similar language.                                               | 1, 3  |
|                             | Ability to work as part of a team and to collaborate with others.                                            | 1, 3  |
| <b>Training</b>             | A willingness to undertake further training as appropriate and to adopt new procedures as and when required. | 3     |
| <b>Qualifications</b>       | Post graduate qualification in Mathematics or Physics related subject.                                       | 1, 3  |
|                             | PhD (or near to completion).                                                                                 | 1     |
| <b>Other</b>                | Commitment to observing the University's Equal Opportunities policy at all times.                            | 1, 3  |

### Desirable Criteria

| Area                        | Criteria                                                          | Stage |
|-----------------------------|-------------------------------------------------------------------|-------|
| <b>Experience</b>           | Experience of modelling radiation effects.                        | 1, 3  |
|                             | Experience with long time scale atomistic methods.                | 1, 3  |
| <b>Skills and Abilities</b> | Competence in high performance computing and scripting languages. | 1, 3  |
|                             | Competence in parallel programming.                               | 1, 3  |

## Conditions of Service

The position is full-time and fixed -term until 30 November 2020. Salary will be on Specialist and Supporting Academic Grade 6, £29,799 to £31,604 per annum), subject to an annual pay award, at a starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at <http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html>

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: <http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html>)

In addition, the University is supportive, wherever possible, of flexible working arrangements. We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>

## Informal Enquiries

Informal enquiries should be made to Dr Kenny Jolley by email at: [K.Jolley@lboro.ac.uk](mailto:K.Jolley@lboro.ac.uk) or by telephone on +44 (0)1509 222554.

## Applications

The closing date for receipt of applications is **31 January 2018**.