Candidate Information

Position:	Research Fellow
School/Department:	School of Mathematics and Physics
Reference:	22/110303
Closing Date:	Monday 31 October 2022
Salary:	£35,333 - £38,592 per annum.
Anticipated Interview Date:	Thursday 24 November 2022
Duration:	Fixed term 36 months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the McBride UKRI FLF research project/team assisting in the development of research proposals and the planning and delivery of the research activity specifically using hard X-ray Free Electron Lasers combined with high intensity optical lasers to investigate properties of matter at extreme pressure and temperatures.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, proposal writing, planning and conducting experiments at large scale facilities, collaborations, and outreach.

Please note that the successful candidate should be available to commence in this post by January 2023.

MAJOR DUTIES:

1. Undertake and develop research under supervision within a specific research project or as a member of a research team.
2. Design, develop and refine research using a range of experimental methods including elastic and inelastic X-ray scattering techniques at hard X-ray Free Electron Lasers, and high intensity laser-matter interactions.
3. Carry out analyses, critical evaluations, and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research for example.
4. Produce high quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with PI and project team (as appropriate) on outputs.
5. In consultation with the project team, promote research milestones and outputs at national and international conferences and through publication in scientific journals.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
7. Carry out occasional educational supervision, within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Normally have or be about to obtain a PhD in physics, engineering, or a related subject area. (NB 'About to obtain' is defined as within 3 months of application date).
2. At least 3 years' relevant* research experience to include:
   • Undertaking research in the area of extreme conditions science with a particular focus on experiments conducted at hard X-ray Free Electron Lasers.
   • A proven track record of using inelastic X-ray scattering and/or X-ray diffraction techniques to understand the behaviour of matter at extreme pressures and temperatures, and of carrying out analyses, critical evaluations, and interpretations of experimental data.
   • Working effectively as part of a research team in the development and promotion of the research theme.
   • Publication record and presentation experience commensurate with stage of career.
3. Practical problem solving skills, independence of thought and initiative.

4. Ability to assess and organise resources.
5. Ability to communicate complex information in English effectively in oral and written format.
6. Ability to build relationships to develop internal and external networks.
7. Commitment to continuous professional development.

DESIRABLE CRITERIA:

1. Experience of conducting experiments at large scale synchrotron or X-ray Free Electron Laser facilities.
2. Demonstrable experience in leading large-scale experimental campaigns.
3. Demonstrable experience in working in large-scale international collaborations.
4. Ability to contribute to the School’s outreach programme by links with industry, community groups etc.