# Candidate Information

**Position:** Research Fellow
**School/Department:** Centre for Light-Matter Interactions (CLMI)
**Reference:** 22/110569
**Closing Date:** Monday 13 February 2023
**Salary:** £35,333 - £42,155 per annum.
**Anticipated Interview Date:** Week commencing 27 February 2023
**Duration:** Fixed term for 24 months

## JOB PURPOSE:

To be an active member of the research project/team assisting in the planning and delivery of research in line with the EPSRC Grant on Ultrafast Nanodosimetry. Specifically, this role will focus on investigating the ultrafast interaction of ions in matter and the development novel diagnostic techniques to drive an ambitious new frontier in ultrafast radiation interactions in matter. In addition, this role will contribute to School administration/outreach activity and assist in supervision of Masters and PhD students.

### MAJOR DUTIES:

1. Undertake basic research activities within the Centre for Plasma Physics with emphasis on one of the following areas:
   • Laser plasma physics in line with EPSRC Grant on Ultrafast Nanodosimetry (EP/W017245/1).
   • Ultrafast ion interactions in matter.
   • Ultrafast extreme ultraviolet source development.
   • Integrating the novel diagnostics into the current experimental suite in the TARANIS laser to perform the first high power/Joule level interactions on sub-10 fs time frames.
2. Work as part of the wider Centre for Plasma Physics team in joint projects, particularly as part of an experimental team.
3. Develop and plan research. Undertake research as a member of a research team and in particular publish research in appropriate journals etc. and present work at conferences.
4. Carry out analysis, critical evaluations and interpretations using methodologies and other techniques appropriate to area of research.
5. Source and secure external funding in collaboration with others from the relevant funding bodies to ensure continued growth of the School's/area's research profile.
6. Provide guidance to students on own specialist area.
7. Work/collaborate on original research with colleagues in other institutions. Or library research in consultation with the research grant holder or supervisor.
8. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
9. Write up results of own work and contribute to the production of research reports, publications and proposals.
10. May contribute to introductory courses, for example, on the use of research methods and equipment.
11. Carry out undergraduate supervision/demonstrating/teaching duties under direction.
12. Carry out routine administrative duties as requested, e.g. arranging research group meetings, maintaining research group website.
13. Carry out any other duties designated by a line manager and which fall within the general ambit of the post.

### ESSENTIAL CRITERIA:

1. Normally have or be about to obtain a relevant PhD.
2. Degree in Physics, Theoretical Physics or related field.
3. A high quality publication record (or be about to publish) in peer reviewed journals commensurate with career stage.
4. Research interests that are sustainable and which complement or enhance research activities of the Centre for Plasma Physics.
5. A minimum of 3 years research experience in a relevant field (experimental high power laser driven ion acceleration).

6. Ability to develop and sustain a high quality research programme.
7. Willing to supervise Masters and PhD students.
8. Ability to contribute to broader management and administrative processes.
9. High level of analytical capability.
10. Ability to communicate complex information clearly.
11. Effective interpersonal skills.
12. Engagement in continuous professional development.
13. Ability to assess and organise resources.
14. Ability to work in a team of scientists.

**DESIRABLE CRITERIA:**

1. PhD in Laser Plasmas/ Plasma Physics.
2. PhD in Experimental Plasma, Laser or Radiation Physics.
3. Research Track Record in Experimental Plasma Physics.
4. Experience in Proton Acceleration and Ultra-intense laser physics.
5. Experience using large laser facilities.
6. Willing to work as part of a team using local, national and international facilities.