Candidate Information

Position:	Research Fellow
School/Department:	School of Mathematics and Physics
Reference:	19/107417
Closing Date:	Tuesday 28 May 2019
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Duration:	12 months

JOB PURPOSE:

As part of Engineering and Physical Sciences Research Council (EPSRC) funded programmes, the successful candidate will work, by means of Particle in Cell simulations, towards advancing understanding, optimization and control of advanced, laser-driven ion acceleration mechanisms. The post is available for a period of one year. The candidate is expected to be an active member of the research team responsible for planning and delivery of the research activities, and assisting in the development of research proposals.

MAJOR DUTIES:

Research:

1. Planning and undertaking computational research activities employing Particle in Cell codes.
2. Carry out analysis and critical evaluations of captured data and interpret observations in light of current theories and understanding.
3. Liaising with internal/external collaborators and assist MSc. and PhD students involved in experimental and theoretical activities.
4. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
5. Assist the grant holder in the preparation of funding proposals and applications to external bodies.
6. Carry out routine administrative tasks associated with the research project, such as organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research group planning.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
5. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Assist the supervisor in management of grant finance.
3. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.

3. Join external networks to share information and ideas.
4. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Hold, or be about to obtain (i.e. before interview) a PhD in computational plasma physics.
2. At least 3 years of relevant research experience.
3. Extensive experience in Particle in Cell simulations of laser driven ion acceleration.
4. Strong publication record, commensurate to career level.
5. Ability to provide support in management and administration.
6. Strong programming skills.
7. Experience in writing research papers.
8. Ability to communicate complex information clearly.
9. Ability to build contacts and participate in internal and external networks.
10. Demonstrable intellectual ability.
11. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. PhD in computational studies of laser-driven particle acceleration.
2. Experience in the use of EPOCH code.
3. Experience in research of advanced laser-ion acceleration mechanisms.
4. Publication record in computational studies of ion acceleration.
5. Experience in visualization and post-processing of Particle in Cell data.
6. Experience in writing proposals and reports.