UNIVERSITY OF WARWICK

Job Description

Job title	Research Fellow
Department	Physics
Grade	6

Job purpose (a brief summary of the role)	Undertake original research that supports the strategic objectives of the Department and enhances its research profile and reputation nationally and internationally. Work collaboratively with project members and wider research partners to deliver the project's scientific objectives and contribute to high-quality research outputs. In this project we aim to: 1. Conduct global magnetospheric simulations of geomagnetic storms using global MHD models, such as Gorgon 2. Simulate the transport of radiation belt electrons and protons, under the influence of a range of empirical and simulated magnetospheric field models 3. Investigate and implement methods for coupling magnetospheric and radiation belt simulations, overcoming limitations in commonly used empirical field specifications 4. Validate and evaluate simulations with spacecraft observations We particularly welcome candidates who can bring new perspectives, models and research visions that complement and extend the aims of the project. The post provides considerable scope for the successful candidate to develop their own research ideas, modelling approaches and scientific directions within the broader themes of magnetospheric, ring current and radiation belt physics.
Duties and responsibilities	**Research and Scholarship** • Help establish a sound research base within the department in order to assist the development of research objectives and proposals for own or joint research. • Conduct individual and collaborative research projects. • Present research progress at conferences and workshops. • Write up research work for publication. • Translate knowledge of advances in the subject area into research activity. • May contribute to preparing proposals and applications to external bodies, to support developing the wider group's and their own research agendas. • May present information on research progress and outcomes to bodies supervising research, e.g. steering groups. • May contribute to the preparation of papers for steering groups and other bodies. • Communicate complex information (orally and in writing) and material of a specialist or highly technical nature. • Continually update own knowledge and understanding in field or specialism. • May assist in the supervision of student projects and the development of student research skills. • Administration and Other Activities. • May attend departmental meetings and to participate (where necessary) in other committees and working groups within the department, the faculty and the University. • Ensure compliance with health and safety in all aspects of work. • Work within budget constraints.

	The duties and responsibilities outlined are not intended to be an exhaustive list but rather to provide guidance on the main aspects of the post. The post-holder will be required to be flexible in his or her duties.

Person Specification

The Person Specification focuses on the essential and desirable knowledge, skills, experience and qualifications required to undertake the role effectively. This is measured by (a) Application Form, (b) Test/Exercise, (c) Interview, (d) Presentation.

Essential Criterion No.	Essential Criterion Description	Measured by
E1	Hold, or be about to attain, a PhD or equivalent in a relevant scientific discipline (e.g. physics, mathematics).	A
E2	Proven ability in research and evidence of quality research output in space, plasma or astro physics.	A,C & D
E3	A developing research profile with the ability to publish and/or produce high-quality research output.	A,C & D
E4	Sufficient breadth or depth of knowledge relevant to the project and of research methods and techniques to work within established research programmes.	A,C & D
E5	Ability or potential to contribute to the development of funding proposals in order to generate external funding to support research projects.	A,C & D
E6	Ability to initiate, plan, implement and deliver programmes of research work to defined deadlines.	A,C & D
E7	Ability to work effectively both independently and as part of a research team.	A,C & D
E8	Excellent interpersonal and communication skills.	A,C & D
E9	An understanding of equal opportunity issues as they may impact on areas of research content.	A,C & D

Desirable Criterion No.	Desirable Criterion Description	*Measured by*
D1	Experience working with plasma simulation codes.	A,C & D
D2	Experience with high-performance computing.	A,C & D