



1 Advertisement

Post Title: Research Fellow in Radiation Detection and Measurement

School/department: Mathematical and Physical Sciences/Physics and Astronomy

Hours: Full time or part time hours considered up to a maximum of 1.0 FTE

Requests for flexible working options will be considered (subject to business need).

Contract: fixed term for 1 year, initially

Reference: 8498

Salary: £34,304 to £40,927 per annum, pro rata if part time

Placed on: 26 April 2022

Closing date: 24 May 2022. Applications must be received by midnight of the closing date.

Expected start date: As soon as possible

We are seeking a highly motivated, capable, and goal-orientated post-doctoral researcher to join the Space Research Group at University of Sussex. The successful candidate will play a major role in the development of novel instrumentation for radiation detection. It is hoped that the successful candidate will become a long-term member of the research group.

The primary purpose of this role is to develop photon counting semiconductor X-ray fluorescence spectrometers. Beyond this, the successful appointee will be expected to contribute productively to the development of radiation detection and measurement instrumentation for other applications.

The Space Research Group is based in the School of Mathematical and Physical Sciences. The research group conducts fundamental and applied research on topics of relevance to space and terrestrial applications. As well as being focused on high quality academic outputs, the group is engaged in the economic development of its research for space and terrestrial purposes.

Please include a full CV and covering letter with your application.

Informal enquiries may be addressed to Prof. Anna M. Barnett by Email at anna.barnett@sussex.ac.uk

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

Please note that this position may be subject to [ATAS clearance](#) if you require visa sponsorship.

For full details and how to apply see our [vacancies page](#)

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.



2. The School / Division

Please find further information regarding the school/division at <http://www.sussex.ac.uk/mps/>

3. Job Description

Job Description for the post of: **Research Fellow in Radiation Detection and Measurement**

Department:	Physics and Astronomy
Section/Unit/School:	MPS
Location:	University of Sussex, Falmer, Brighton
Grade:	Grade 7
Responsible to:	Prof. Anna M. Barnett
Responsible for:	N/A

Research Fellow in Radiation Detection and Measurement

Job Title:	Research Fellow in Radiation Detection and Measurement
Grade:	Research Fellow I, Grade 7
School:	MPS
Location:	Falmer, Brighton
Responsible to:	Principal Investigator through to Head of School
Direct reports:	n/a
Key contacts:	Members of research group, members of faculty within the School and University.
Role description:	Research Fellow I is an early career-grade research position. Post-holders will be expected to contribute to the work of the research team, and also to develop their research skills with support from more experienced members of staff.



PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.
2. To contribute to School teaching activities.

KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

- 1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.
- 1.2 Conduct research projects individually and in collaboration with others.
- 1.3 Analyse and interpret research findings and draw conclusions on the outcomes.
- 1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School's REF submission at acceptable levels of volume and academic excellence.
- 1.5 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.
- 1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.
- 1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.
- 1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

2. Teaching & Student Support

- 2.1 Undertake teaching duties, if required.
- 2.2 Assist in the assessment of student knowledge and supervision of student projects if required.
- 2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.



3. Contribution to School & University

- 3.1 Attend and contribute to relevant School and project meetings.
- 3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

4. Role-specific duties

- 4.1 Design novel radiation spectrometers (and components therefore) from scratch suitable for the intended application.
- 4.2 Develop novel radiation spectrometers (and components therefore) from scratch suitable for the intended application.
- 4.3 Build novel radiation spectrometers (and components therefore) from scratch suitable for the intended application.
- 4.4 Characterise novel radiation spectrometers (and components therefore) suitably for the intended application.
- 4.5 Analyse data from radiation spectrometers (and components therefore) suitably.
- 4.6 Provide day-to-day management of the experimental and theoretical research work (including data analysis) associated with the project.
- 4.7 Proactively and usefully contribute to the management of the Space Research Group and its activities.
- 4.8 Proactively and usefully contribute to the commercialisation of Space Research Group's research.

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

INDICATIVE PERFORMANCE CRITERIA

- A PhD or equivalent scholarly or relevant professional activity
- Pursuing a line of independent research within a research group.
- Publishing research (either from a recently completed PhD or new original research).
- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.



- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.
- Evidence of successful engagement in teaching or supervision.

4. Person Specification

ESSENTIAL CRITERIA

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).
2. Evidence of engagement in high-quality research activity.
3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues, and external audiences.
4. Ability to work individually on own initiative and without close supervision, and as part of a team.
5. Ability to exercise a degree of innovation and creative problem-solving.
6. Excellent organisational and administrative skills.
7. Ability to prioritise and meet deadlines.
8. Excellent IT skills.

ESSENTIAL ROLE-SPECIFIC CRITERIA

1. Relevant experience of the design, development, and/or characterisation of SiC and/or AlInP radiation detection and measurement instrumentation.
2. Relevant detailed understanding of photodiode radiation detectors and their characterisation.
3. Relevant detailed experience of using and/or developing prototype low noise spectroscopy charge sensitive preamplifiers.
4. A clear and demonstrated ability to operate successfully in a radiation detector research laboratory with minimal supervision.
5. Excellent experimental/practical skills appropriate to the work of the Space Research Group.



DESIRABLE CRITERIA

1. Experience of working at the intersection between academic and commercial research and development.
2. A PhD in compound semiconductor radiation detectors.
3. Experience of working with radiation sources.
4. A commitment to sustaining, growing, and achieving excellence in research and commercialisation activities.