

Job Title: Radiation Effects Engineer

Req ID 1961 - Posted 17/08/2017



EUROPEAN SPACE AGENCY

Vacancy in the Directorate of Technology, Engineering and Quality.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged.

Post

Radiation Effects Engineer, TEC-QEC (00002245)

This position is classified A2-A4 on the Coordinated Organisations' salary scale.

This position forms part of ESA's Advance Recruitment Scheme which is established to provide appropriate staffing resources when requirements materialise.

Appointments are therefore made for an initial duration of two years upon which the selected candidate may be appointed to a permanent post in the Agency.

Location

ESTEC, Noordwijk, The Netherlands

Description

Radiation Effects Engineer in the Radiation Hardness Assurance and Component Analysis Section, Components and Materials' Physics and Chemistry Evaluation and Standardisation Division, Product Assurance and Safety Department, Directorate of Technology, Engineering and Quality.

The Radiation Hardness Assurance and Component Analysis Section provides functional support to ESA projects and carries out technological research (R&D) in areas including EEE component radiation hardness assurance, radiation evaluation, radiation qualification, radiation hardening, radiation mitigation techniques, dosimetry, radiation test facilities, inflight RHA and component radiation characterisation experiments.

Duties

Reporting to the Head of Section and within the technical fields described above, the main tasks and responsibilities of the post holder will include:

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the area of EEE component RHA throughout all project phases;
- participating in project reviews and evaluations of procurement proposals, identifying critical development problems and assisting with their resolution;
- contributing to the definition of technology development requirements and work plans for ESA technology programmes;
- defining, initiating and managing R&D activities covering long- and short-term needs;
- fostering new application areas for multidisciplinary activities, placing emphasis on innovative concepts, cutting-edge technologies and system architectures;
- preparing and conducting radiation tests including test set-up development (hardware and software) and subsequent data analysis (with emphasis on total ionising dose, displacement damage and single event effects) of EEE components, test structures and materials in support of Agency projects, studies, evaluation, qualification or RH activities;
- supporting the Section's standardisation activities, particularly those involving general RHA procedures, irradiation test guidelines (SEE, TID and displacement damage), modelling and simulation issues;
- conducting simulations of radiation effects in components and materials using suitable device physics-based SW tools to produce new or improve existing models;
- monitoring applicable scientific and technological trends and maintaining state-of-the-art expertise;

- contributing to the dissemination of the results of the activities performed and the transfer of knowledge across the Agency.

Technical competencies

Understanding of radiation hardness assurance processes
Radiation test experience (SEE, TID, DD)
Radiation test planning and preparation (HW&SW)
Overall semiconductor technology knowledge
Radiation effects knowledge
Familiarity with radiation hardness assurance standards
Understanding of ESA space project review processes

Behavioural competencies

Communication
Teamwork
Planning & organisation
Problem solving
Continuous learning
Innovation & creativity

Education

Applicants for this post should have a Master's degree or equivalent qualification in electrical/electronic engineering or (solid state) physics.

Additional requirements

Experience of radiation effects on semiconductor components and aspects of irradiation testing will be considered an asset. Knowledge of EEE component RHA processes for space applications is required, as is familiarity with SEE rate prediction tools and their use in the space environment. Knowledge / familiarity with the ECSS and ESCC standards is considered advantageous.

Applicants should be familiar with one or more of the following: shielding analysis tools (sectoring and 3D MonteCarlo-based); device physics simulation tools; modern programming techniques; modelling and simulation of radiation effects on EEE components for radiation hardening; software engineering practices. Basic familiarity with component engineering and product assurance principles and modelling/simulation of radiation effects on EEE components for RH will be an asset.

Other Information

For behavioural competencies expected from ESA staff in general, please refer to the ESA Competency Framework. The working languages of the Agency are English and French. A good knowledge of one of these is required. Knowledge of another Member State language would be an asset. The Agency may require applicants to undergo selection tests.

The closing date for applications is 07 September 2017.

If you require support with your application due to a disability, please email contact.human.resources@esa.int.

Please note that applications are only considered from nationals of one of the following States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, Canada and Slovenia.

Priority will first be given to internal candidates and secondly to external candidates from under-represented Member States.

In accordance with the European Space Agency's security procedures and as part of the selection process, successful candidates will be required to undergo basic screening before appointment.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.