

## EUROPEAN SPACE AGENCY

### Vacancy in the Directorate of Technology, Engineering and Quality

The European Space Agency is an equal opportunity employer and encourages applications from women

#### **POST**

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](#).

This post is classified in the A2-A4 grade band 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, after which the selected candidate may be appointed to a permanent post at the Agency.

#### **LOCATION**

ESTEC, Noordwijk (Netherlands).

#### **DUTIES**

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.

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.

## QUALIFICATIONS

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

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.

Candidates should have good interpersonal and communication skills. They should be able to work effectively, autonomously and cooperatively in a diverse and international team environment, defining and implementing solutions in line with team and individual objectives, as well as project deadlines. They should also demonstrate a high degree of professional curiosity and a strong interest in learning.

Applicants should also have good analytical, organisational and reporting skills, a proactive attitude to problem-solving and an interest in innovative technologies.

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 languages is required. Knowledge of another Member State language would be an asset.

## CLOSING DATE

The closing date for applications is **5 April 2017**.

Applications from external candidates should preferably be made [online](#) from the ESA website ([www.esa.int/careers](http://www.esa.int/careers)). Those unable to apply online should submit their CV to Human Resources, ESTEC, Keplerlaan 1, 2201 AZ Noordwijk ZH, The Netherlands.

ESA staff members wishing to apply should fill in the [Internal Application Form](#) and email it to [Apply2ESTEC](#).

The Agency may require applicants to undergo selection tests.

If you require support with your application due to a disability, please email [contact.human.resources@esa.int](mailto:contact.human.resources@esa.int).

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**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 and Canada.**

**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.**

**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.**