

Job Title: Materials' Physics and Chemistry Engineer

Req ID 7481 - Posted 12/10/2018



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

Materials' Physics and Chemistry Engineer

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

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

The Materials' Physics and Chemistry Section provides engineering support to all ESA projects and development programmes in the area of Materials' Physics and Chemistry, associated processes and environmental effects.

It supports project specific activities in the selection, characterisation, verification, approval and application of metallic and non-metallic materials & processes for ESA programmes with a focus on materials' physics and chemistry and environmental effects. Environmental effects covers the ground as well as the space environment.

Duties

Reporting to the Head of Section and within the technical fields described above, the postholder will perform main tasks and responsibilities which include:

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the area of materials physics & chemistry throughout all project phases with a focus on environmental effects;
- providing support to evaluation programmes, non-conformances and failure investigations in this area, associated processes and environmental effects;
- supporting project-specific activities in the selection, characterisation, verification, approval and application of metallic/non-metallic materials and processes for ESA programmes, focusing on materials physics & chemistry and environmental effects;
- supporting the materials and processes control boards for all ESA projects (notably by reviewing declared lists) and interfacing with all supported projects regarding materials physics & chemistry and environmental effects;
- participating in project reviews and evaluations of procurement proposals, identifying critical development problems and assisting with their resolution via e.g. NRBs;
- contributing to the definition and implementation of the strategy plan for technology development for metallic/non-metallic materials and processes (and associated roadmaps) (focusing on materials physics & chemistry, associated processes and environmental effects);
- assessing existing and novel materials technologies in this area for future space applications, including advanced

exploration missions; this includes analysing future mission requirements and preparing appropriate evaluation techniques with a particular focus on, but not limited to, NDI/NDE techniques;

- developing and implementing new laboratory test methods and materials analysis techniques and procedures in respect of space environmental effects, reporting relevant laboratory activities as required;
- contributing to implementation of the Advanced Manufacturing Cross-Cutting Initiative and other Agency-wide initiatives such as CleanSpace, Space & Energy, etc., focusing on materials physics & chemistry, associated processes and environmental effects;
- supporting and contributing to the establishment and implementation of requirements, handbooks and standards regarding space materials (Q-70 series) in the field of competence;
- maintaining and developing ESA's competence in materials physics & chemistry, associated processes and environmental effects, promoting achievements and concepts through conferences, workshops and training;
- contributing to the dissemination of the results of activities performed and the transfer of knowledge across the Agency.

Technical competencies

Hands-on laboratory experience

Space and ground environmental effects on materials and processes

Materials characterisation techniques to reveal/assess changes in materials due to environmental effects

Materials engineering aspects for space missions

Materials & Processes PA/QA standards

Understanding of ESA space project review processes

Experience in the management and monitoring of industrial activities, including participation in reviews

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 materials science & engineering, materials' physics or chemistry, applied physics.

Additional requirements

Understanding of how materials/associated processes are affected by the environment (ground/space) and how test methods are developed to characterise it are required.

Familiarity with detailed materials reviews (MPCB's), resolution of anomalies (NRB's) and knowledge of environmental modelling software like SPENVIS is 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 02 November 2018.

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.

According to the ESA Convention the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States. Priority will first be given to internal candidates and secondly to external candidates from

under-represented Member States when short-listing for interview.
(<http://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf>)

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.