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Paris, 23 November 2015
(English only)

EUROPEAN SPACE AGENCY

Vacancy in the Directorate of Technical and Quality Management

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

POST

Aerothermodynamics Engineer in the Aerothermodynamics Section, Propulsion and Aerothermodynamics Division, Mechanical Engineering Department, Directorate of Technical and Quality Management.

This post is classified in the A2-A4 grade band on the Coordinated Organisations' salary scale.

LOCATION

ESTEC, Noordwijk (Netherlands).

DUTIES

The post holder will report to the Head of the Aerothermodynamics Section within the Propulsion and Aerothermodynamics Division. The Section provides functional support to ESA projects and carries out technological research (R&D) in aerothermodynamics for spacecraft/launchers over the entire speed range of subsonic, supersonic and hypersonic flight, including both the ascent phases into space and the entry and descent phases on earth or other celestial bodies. These activities encompass external aerothermodynamics from continuum to rarefied flows as well as internal fluid dynamics for propulsion systems, including multiphase flow physics.

Within the above technical areas, and with emphasis on assessment methodologies for aerothermodynamics phenomena and the development and validation of numerical tools, the main tasks and responsibilities will include the following:

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the field of aerothermodynamics, during all project phases;
- supporting flight research projects associated with future launchers, launcher propulsion systems and re-entry activities, including the design, development and data exploitation of inflight experimentation instruments;
- contributing to the definition of technology development requirements and work plans for the Agency's technology programmes;
- defining, initiating and managing R&D activities, including studies, experimental investigations and numerical and engineering development activities for internal and external aerothermodynamics;
- supporting the ESA Concurrent Design Facility (CDF) in the development of its required aerothermodynamic and interdisciplinary analysis tools;
- maintaining and improving aerothermodynamics design and verification tools for application within ESA projects and programmes;
- 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 aerospace, physics or applied mathematics, as well as in-depth knowledge of computational fluid dynamics, preferably in the aerothermodynamics of re-entry vehicles. At least five years' practical experience with aero-decelerators, in particular supersonic parachutes, is desirable.

Preference will be given to those candidates having a solid background in aerothermodynamics analysis methodologies, as well as proven experience with engineering tools used for design and verification of space vehicles with emphasis on the dynamic stability of capsules. In-depth knowledge of gas surface interaction, in particular with respect to ablation processes and their impact on the vehicle's aerodynamic characteristics, would be an asset.

Applicants 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.

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

CLOSING DATE

The closing date for applications is **22 December 2015**.

Applications from external candidates should preferably be made online from the ESA website (www.esa.int/careers). Those unable to apply online should submit their CVs 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.

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, Spain, Sweden, Switzerland, the United Kingdom and Canada.

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.