

## **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**

Guidance, Navigation and Control (GNC) Systems Engineer in the Navigation, Guidance and Control Section, Control Systems Division, Electrical 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 incumbent will report to the Head of the Navigation, Guidance and Control Section. The Navigation, Guidance and Control Section is responsible for the definition and implementation of GNC systems for planetary exploration orbiters and landers, launchers and re-entry vehicles and for specialised applications such as formation flying.

The major areas of responsibility of the incumbent will be to provide GNC support to ESA projects, and to initiate and manage research and development (R&D) contracts in their domain of competence.

The main tasks of this post will be:

- providing GNC engineering expertise to ESA projects, involving analysis and trade-offs of system and trajectory requirements, performance and budget analyses, writing and assessment of GNC specifications (system, software and hardware units), participating in the evaluation of industrial proposals and being the engineering focal point for the procurement of GNC subsystems and units;
- reviewing, evaluating and checking the GNC designs of industrial contractors, including Failure Detection, Isolation and Recovery (FDIR) and Health Monitoring Systems (HMS); identifying design deficiencies and problem areas and assisting in their resolution. These activities shall be carried out during all phases of satellite procurement from preliminary definition up to launch, with particular emphasis on project reviews;
- providing technical expertise, in the domain of competence of the Section, to early feasibility and definition studies for future missions including Phase 0 in the ESA Concurrent Design Facility, involving system requirement flow down analysis, GNC conceptual definition and trade-off studies with respect to trajectories, feasibility and available technology;
- analysing and designing advanced guidance and estimation algorithms and robust controllers for exploration vehicles and space transportation systems; developing associated design analysis and simulation tools including mathematical solvers;
- conceiving, initiating and managing R&D contracts on mission-enabling technology, including GNC architectures, algorithms and hardware. This task involves preparing specifications and work statements, managing and monitoring technical and schedule performance and following up and promoting the technology results;

- working in the Control Laboratory, primarily preparing and using the in-house GNC Test Facility and prototyping precursor GNC tools supporting new GNC techniques;
- contributing to the dissemination of the results of activities performed and knowledge transfer across the Agency.

## QUALIFICATIONS

Applicants for this post should have a Master's degree or equivalent qualification in control and aerospace engineering. A minimum of five years of industrial experience in design, tuning, analysis and simulation of GNC systems, including FDIR in different project phases, is required.

A proven knowledge of modern control design methods, commercial model-based design tools and rapid prototyping of hardware-in-the-loop systems would be an asset. Candidates should also be proficient with Matlab/Simulink and C/C++ programming languages.

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 and project deadlines.

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

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 **1 September 2015**.

Applications from external candidates for this post should preferably be made [online](#) from the ESA website ([www.esa.int/careers](http://www.esa.int/careers)). Those unable to apply on-line 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.

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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, Finland, France, Germany, Greece, 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.**