Job Title: Internal Research Fellow (PostDoc) in Electric Propulsion

Req ID **9590** - Posted **17/03/2020**

EUROPEAN SPACE AGENCY

Research Fellowship Opportunity 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
Internal Research Fellow (PostDoc) in Electric Propulsion
This post is classified F2.

Location
ESTEC, Noordwijk, The Netherlands

Description
The Division performs mission analysis to derive propulsion requirements that will later on be used to design, manufacture and test electric propulsion thrusters.

Scientific missions such as LISA Pathfinder, LISA, Mars Sample-Return and telecommunication missions such as NEOSAT and Electra require electric propulsion systems with very stringent requirements. The Division supports the project teams in the domains of propulsion and aerothermodynamics, performing specific research on candidate technologies. Electric propulsion systems are present on all of these missions.

The Division also houses the ESA Propulsion Laboratory (EPL) which is deployed to assess the various technologies.

Field(s) of activities/research
1. Research, development and testing activities on current electric propulsion systems, microthrusters and advance concepts. This covers analysis, testing and modelling activities for R&D projects. Development of methodologies, tools and diagnostics used under these projects.

2. Plasma physics, gas dynamics and electro-mechanical engineering. Understanding the physics involved in the generation and acceleration of plasma, ions and electron beams is extremely important in order to design electric propulsion systems and monitor their possible interaction with the spacecraft. Manufacturing techniques and electro-mechanical engineering knowledge is extremely important for the development of propulsion systems, from early research to final product.

3. Knowledge of past and current industrial scenarios. Key actors in the sector, their infrastructure, organisation and historical evolution are extremely important to understanding the complex industrial relations and the possibilities for new ventures under ESA programmes. A good knowledge of activities carried out at the various companies will also be required.

4. Mission analysis to derive propulsion requirements that will be used later on as input to design activities.

Technical competencies
Ability to conduct research autonomously
Breadth of exposure coming from past and/or current research/activities

Research/publication record
Knowledge relevant to the field of research
General interest in space and space research
Ability to gather and share relevant information

Behavioural competencies

Innovation & Creativity
Continuous Learning
Relationship Management
Self Motivation
Communication
Problem Solving
Cross-Cultural Sensitivity

Education

You should have recently completed, or be close to completing, a PhD in a technical or scientific domain, preferably physics or aeronautical, mechanical or electrical engineering, the subject c should be relevant to the description of the tasks outlined above, aiming at an academic/research career.

Preference will be given to candidates awarded their doctorate within the last five years.

Additional requirements

You should have good interpersonal and communication skills and be able to work in a multicultural environment, both independently and as part of a team.

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.

Other information

For behavioural competencies expected from ESA staff in general, please refer to the ESA Competency Framework.

The Agency may require applicants to undergo selection tests.

The closing date for applications is 14 April 2020.

In addition to your CV and your motivation letter, please add your proposal of no more than 5 pages outlining your proposed research in the "additional documents" field of the "application information" section.

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, Spain, Sweden, Switzerland, and the United Kingdom. Nationals from Slovenia, as an Associate Member, or Canada as a Cooperating State, can apply as well as those from Bulgaria, Cyprus, Latvia, Lithuania and Slovakia as European Cooperating States (ECS).
Priority will first be given to 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