

Job Title: Internal Research Fellow (PostDoc) in Radio Navigation

Req ID 8401 - Posted 18/03/2019



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 Radio Navigation

This post is classified F2 on the Coordinated Organisations' salary scale.

Location

ESTEC, Noordwijk, The Netherlands

Our team and mission

The Radio Frequency (RF) Systems Division provides expert support to ESA programmes in the RF system and technology domains, which include navigation, telecommunication, Earth observation and science. It contributes to the technological development of the Agency. It runs the associated laboratory facilities and manages the associated investments.

The Radio Navigation Systems and Techniques Section covers radio navigation techniques and technologies, elements and subsystems capable of generating, receiving, exploiting and analysing the signals from the current and upcoming radio navigation systems (GPS, Glonass, EGNOS, Galileo, Beidou, etc.), including system design tools and navigation equipment. Emphasis is placed on the engineering aspects, the GNSS system and sub-system evolution, design and technological demonstrator prototyping, and specifically on navigation system design and tools, novel navigation techniques and equipment design and prototyping, on-board receivers and formation-flying RF metrology.

Field(s) of activities/research

Positioning and navigation have become essential functions in everyday life for professional and mass-market usage. This pushes for a continuous extension of the user base (phones, wearables, watches, etc.), operating environments (cities, indoor, etc.) and improvement of performance accuracy, resilience, power consumption, etc.

The selected research fellow is going to work on challenging and exciting R&D activities with a dynamic team of experts in positioning technologies, aimed at enhancing performance and resilience of PNT (Position-Navigation-Timing) solutions facing harsh environments (multipath and non-line-of-sight impairments, interference, etc.).

He/she will have the opportunity to contribute to shaping future PNT algorithms, systems and applications in the field of signal processing and navigation algorithms for terrestrial use cases (e.g. positioning for vehicle automation, first responders, etc.). There are two main activities which could be foreseen:

1. The first will focus on the development of algorithms, in particular navigation algorithms, to enhance the accuracy of GNSS and hybrid GNSS solutions.
2. The second aims at developing solutions combining the latest GNSS with the latest alternative and back-up PNT technologies (5G landscape, signal of opportunity incoming from LEO satcoms, etc.) to achieve seamless ubiquitous accurate positioning.

For the aforementioned activities, development is meant in the broadest sense, covering the design, implementation and testing of solutions (e.g. testing through laboratory and field campaigns).

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

Applicants should have recently completed, or be close to completion of a PhD in a relevant engineering domain. Preference will be given to applications submitted by candidates within five years of receiving their PhD.

Additional requirements

Previous experience in radio navigation signal processing and sensor fusion algorithm design would be an asset, as would knowledge of position estimation algorithms, signal processing and radio communications.

The Research Fellow must be able to work in a team with other international investigators in a spirit of positive co-operation and, at the same time, be capable of working autonomously in his/her area of research. At the end of the fellowship, the Research Fellow will be required to summarize the work completed so that it can be included in papers to be submitted to relevant specialised conferences/journals.

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 08 April 2019.

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. Candidates are asked to arrange for 3 reference letters, to be sent by the referees themselves, before the closing date to temp.htr@esa.int. Please ensure your name is mentioned in the subject of the e-mail.

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, the United Kingdom and Canada and Slovenia as well as Bulgaria, Cyprus, Latvia, Lithuania, 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

