

Job Title: Internal Research Fellow (PostDoc) in Optical Ground Support Equipment

Req ID 8363 - Posted 07/06/2019



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 Optical Ground Support Equipment

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

Location

ESTEC, Noordwijk, The Netherlands

Description

Within the Mechatronics and Optics Division, the Optics Section provides functional support to ESA projects and carries out technological research activities in the following areas:

- optical component technology, such as micro-optics, passive integrated optics, x-ray optics
- optical instrumentation, such as spectro-radiometric imaging instruments in the visible and infrared interferometers
- testing, calibration and performance verification of optical systems.

Field(s) of activities/research

In the frame of the development of hyperspectral instruments, two research areas are proposed:

1. Design and performance analysis
2. Calibration and performance verification

A number of hyperspectral instruments are currently being developed for land and atmospheric research. Design, modelisation and performance analysis of state-of-the-art spectrometers is a challenging task. New developments are currently running regarding novel spectrometer components and design solutions.

The verification and calibration of hyperspectral instruments is equally challenging. Generally speaking, a dedicated, high performance optical ground support equipment (OGSE) has to be designed and built for that purpose.

The selected candidate will work on one of the two above topics depending on interest and previous experience.

The topic of design and performance analysis will address:

- novel concepts for hyperspectral imagers
- performance analysis and modelling of spectrometer components
- laboratory test of key components,

The topic of calibration and performance verification will address:

- a review of existing OGSEs
- identification of commonalities between different OGSEs
- trade-offs between different set-ups, light sources, etc.
- proposals for novel calibration set-ups and associated performance assessment.

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
Self Motivation
Communication
Problem Solving
Relationship Management
Cross-Cultural Sensitivity

Education

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

Additional requirements

Ideally, candidates should have a background in optical design as well as experimental physics/engineering. Some experience in the mechanical design, assembly, alignment and testing of optical instrumentation would be an asset.

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 in papers to be submitted to specialized 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 07 July 2019.

In addition to your CV and your motivation letter, please add your proposal of no more than 5 pages outlining your proposed research. Candidates must also arrange for three letters of reference to be sent by e-mail, before the deadline, to temp.htr@esa.int. The letters must be sent by the referees themselves. The candidate's name must be mentioned in the subject of the email.

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