

Job Title: Internal Research Fellow (PostDoc) in Extra-Terrestrial Sample Analysis

Job Requisition ID 10742 - Posted 02/10/2020



EUROPEAN SPACE AGENCY

Research Fellowship Opportunity in the Directorate of Human & Robotic Exploration Programmes.

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 Extra-Terrestrial Sample Analysis

This post is classified F2.

Location

ESTEC, Noordwijk, The Netherlands

Our team and mission

You will be based in the SciSpace Team in the Research and Payloads Group, and will work on the scientific analysis of extraterrestrial samples. You will work closely with and support the ExPeRT Group on mission studies and other teams across ESA.

The return and analysis of extraterrestrial samples will be a major theme of the future ESA exploration programme. For this reason ESA has been building up in-house research capability and knowledge to support future sample-return mission preparations and to deliver science. This has been achieved by taking on research fellows. There have been two main areas of work to date: supporting NASA's Apollo Next-Generation Sample Analysis programme (ANGSA) to open up and analyse a set of pristine lunar samples for the first time since their collection in the 1970s, and establishing a capability to analyse extraterrestrial samples in ESA's extensive analytical laboratories. Samples from the Apollo collection have recently been allocated to support this effort. The research also provides a link between lunar science and materials knowledge, and in-house research developing processes for in situ utilisation of space resources.

This research fellowship would continue this effort, supporting the ANGSA campaign, performing in-house sample-related research and supporting the definition of new missions and capabilities for sample curation and analysis across Europe.

Interested candidates are highly encouraged to visit the ESA website: www.esa.int

Information on ESA's laboratories can be found at:

https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Laboratories Information on ANGSA can be found at: <https://www.lpi.usra.edu/ANGSA/>

Field(s) of activities/research

You will prepare and perform research using extraterrestrial materials, primarily in ESA laboratories and facilities. Samples should be obtained from existing sources through standard approaches (e.g. Apollo samples accessed through application and assessment by CAPTEM). As well as achieving scientific results, you should support the establishment of facilities, tools, or software that can be used as a basis for future research projects.

In addition, you will support the ongoing research activities associated with ANGSA. ESA's role here is to support the preliminary analysis team, to support the extraction of gases from the sample containers, and to prepare lessons learned and propose new approaches for future sample return.

The outcomes and expertise gathered through the research activities will be used to support the preparation of future mission study activities and you may also contribute to this. Expected outcomes and benefits of the research include:

- Ongoing engagement in ANGSA cooperation with NASA
- Building on previous investments in capability and infrastructure for in-house sample analysis
- Building internal knowledge and capabilities for sample-related activities on Mars Sample Return and Moon missions
- Supporting activities related to In-Situ Resource Utilisation
- Creating a research link with the Sample Science community
- Supporting coordination between different ESA teams

- Establishing tools or facilities that can be built on by future research fellows and which support the ESA programme
- Addressing knowledge gaps for future exploration
- Delivering scientific publications.

Technical competencies

Knowledge relevant to the field of research

Research/publication record

Ability to conduct research autonomously

Breadth of exposure coming from past and/or current research/activities

General interest in space and space research

Ability to gather and share relevant information

Behavioural competencies

Innovation & Creativity

Continuous Learning

Communication

Relationship Management

Self Motivation

Problem Solving

Cross-Cultural Sensitivity

Education

You should have recently completed, or be close to completion of, a PhD in a related technical or scientific discipline.

Preference will be given to applications submitted by candidates within five years of receiving their PhD.

Additional requirements

Experience in handling, analysing and performing research using extraterrestrial samples is particularly required for this position.

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 01 November 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 Latvia and Slovenia, as Associate Member States, or Canada as a Cooperating State, can apply as well as those from Bulgaria, Cyprus, 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