EUROPEAN SPACE AGENCY

Internal Research Fellow (PostDoc) - for Radiation Shielding

Job Req ID: 12470
Closing Date: 12 April 2022
Publication: External Only
Vacancy Type: Internal Research Fellow
Date Posted: 15 March 2022

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

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. For this purpose, we welcome applications from all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age, disability or other characteristics. Applications from women are encouraged.

This post is classified F2.

Location
EAC, Porz-Wahn, Germany

Our team and mission
The European Astronaut Centre's tasks are centered around the “human” component of human spaceflight: astronaut selection, training, medical support and surveillance, as well as support of astronauts and their families during preparation for and during while on space missions to the International Space Station (ISS).
In order to make the operational experience of EAC available also to other ESA activities, in particular for the preparation of human exploration, EAC has created the Spaceship EAC initiative, to foster innovation and low technology readiness (TRL) concepts and technologies. Within this initiative, the topic of radiation shielding has been investigated, in particular understanding the shielding potential of processed lunar regolith. To date the research has been predominantly carried out with radiation transport code (e.g. FLUKA, GEANT) combined with empirical understanding of regolith material gained from literature, ESA and Spaceship EAC studies.
This position is made available by the Italian Space Agency (ASI) as part of the ESA-ASI integrated team.

Field(s) of activity/research for the traineeship
You will join the Spaceship EAC team, which is part of the Exploration Preparation, Research and Technology (ExPeRT) team of ESA. The Spaceship EAC team is composed of Research Fellows, Young Graduate Trainees and university interns performing their final year projects within the fields of research and development indicated below. You will mentor some university students and assure an appropriate level of research to be compliant with their university requirements.
You will also be working on the following activities:

- Performing applied research in the area of radiation shielding for human spaceflight and exploration, in particular focusing on low TRL concepts and technologies in this domain;
- Supporting the on-going activities in the development of a strategy for radiation protection of hardware required for a medical system for future human exploration missions.
- Assuring that the research is coordinated and aligned with
    - The ESA Exploration Strategy, Space Resources Strategy and the objectives of the Directorate
    - Currently discussed lunar exploration scenarios and related logistical constraints;
    - Relevant on-going R&D activities at ESA or funded by ESA;
- Supporting the liaison with other ESA teams active in the area of radiation studies relevant to human spaceflight and exploration;
- Supporting the development of the Spaceship initiatives and related EAC and ExPeRT activities;
- Actively participating in conferences and meetings to share and promote your knowledge.

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

Result Orientation
Operational Efficiency
Fostering Cooperation
Relationship Management
Continuous Improvement
Forward Thinking

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.
Applicants must have research experience in at least one of the following domains: lunar research, advanced physics and radiation studies, In-Situ Resource Utilization (ISRU), computational physics, monte-carlo simulations.

Additional requirements

You are required to have strong analytical, problem-solving and communication skills and must be able to work in a multi-cultural environment and in an autonomous manner.
You should be proficient in the use of MS Office packages and have experience in working with research-relevant software tools.
The working languages of the Agency are English and French. A good knowledge of English is required for this post. As the position is sponsored by the Italian Space Agency (ASI), Italian language knowledge at B1 level of the Common European

Reference Framework for Languages (CERF) is required. Knowledge of other member state languages is considered an asset.

Other information

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

For further information on the Internal Research Fellowship Programme please visit: Internal Research Fellowship

The Agency may require applicants to undergo selection tests.

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.

At the Agency we value diversity and we welcome people with disabilities. Whenever possible, we seek to accommodate individuals with disabilities by providing the necessary support at the workplace. The Human Resources Department can also provide assistance during the recruitment process. If you would like to discuss this further please contact us at 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, Lithuania and Slovenia, as Associate Member States, or Canada as a Cooperating State, can apply as well as those from Bulgaria, Cyprus and Slovakia as European Cooperating States (ECS).

According to the ESA Convention, the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States*. When short-listing for an interview, priority will first be given to candidates from under-represented or balanced Member States*.(https://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf)

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 conducted by an external background screening service.

*Member States, Associate Members or Cooperating States.