

Internal Research Fellow in EO for Earth System Science

Job Req ID: 14562

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Vacancy Type: Internal Research Fellow

Date Posted: 14 January 2022

Research Fellowship Opportunity in the Directorate of Earth Observation Programmes.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. We therefore welcome applications from a 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

ESRIN, Frascati, Italy

Our team and mission

You will report to the Head of the Science Section in the Data Applications Division, Science Applications and Climate Department, Directorate of Earth Observation Programmes. You will carry out your tasks in close cooperation with other staff in the Directorate.

The Science Section is a dynamic R&D team leading EO research and Earth system science activities, in partnership with European and international scientific groups. Visit our website for an overview of our activities: <https://eo4society.esa.int/communities/scientists/>

You will be part of the Earth System Science Hub, a new science facility at ESA and a centre for networking and scientific collaboration among world-class researchers in ESA Member States and worldwide. The Hub will bring together young and senior scientists of different disciplines in Earth observation and Earth system science to develop the next generation of EO products and jointly address some of the major science challenges of this decade.

The Hub will also contribute to developing a solid scientific basis for the implementation and evolution of “Digital Twin Earth” (an advanced high-resolution replica of our planet and its processes and interactions with human activities and ecosystems), providing scientific input for the EU DestinE and ESA DTE&U programmes (<https://ec.europa.eu/digital-single-market/en/destination-earth-destine>).

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

Field(s) of activity/research for the traineeship

You will be responsible for a range of activities including:

products (i.e., exploiting data from the Earth Explorers, Sentinel series, non-ESA missions) to innovative Earth system science.

- contributing to the development of an advanced reconstruction of the Earth system and its processes based on the latest advances in EO capabilities, through collaborative research across domains in cooperation with ESA experts and international scientists and science teams.
- supporting the definition, technical supervision and coordination of scientific exploitation projects carried out by external teams of experts and scientists, in all areas of EO research and Earth system science.
- maintaining continuous dialogue with the scientific communities, including major international programmes and initiatives and partner space agencies (e.g., NASA), and preparation of the scientific agenda driving future ESA activities and plans.

You will be involved in scientific activities of relevance to one of the following thematic priorities:

- **Ocean science:** Activities will focus on exploiting the latest advances in EO satellite technology to enhance our observation capacity and fundamental scientific understanding of the ocean's role in the Earth and climate system and its responses to anthropogenic forcing and mitigation actions. Priorities will include the further understanding of the ocean's role in the carbon cycle, ocean health (e.g. acidification, marine heatwaves, eutrophication, extreme wind events) and marine biology and ecosystems, both in the open ocean and in coastal areas. You will also help coordinate and implement the activities of the ESA Ocean science cluster: <https://eo4society.esa.int/communities/scientists/esa-ocean-science-cluster/>
- **Land surface processes:** Activities will focus on enhancing our capacity to observe and understand complex land surface processes with special attention paid to hydrology, vegetation dynamics and the terrestrial carbon cycle, its sensitivity to climate change and its interactions with human activities (e.g., agriculture, forestry, energy, water consumption). Activities will focus in particular on the exploration and exploitation of the novel capabilities and increasing synergistic potential of the latest EO satellite systems (e.g., Copernicus Sentinels, FLEX, Biomass, meteorological missions, novel national and commercial missions) along with field measurements and high-resolution land surface and hydrological models. You will also help coordinate and implement the ESA carbon science cluster: <https://eo4society.esa.int/communities/scientists/esa-carbon-science-cluster>

You should mention your preferred theme in your proposal.

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

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.

A PhD in physics, engineering or Earth system science is required for this post.

Additional requirements

You should also have:

- proven research experience based on the use of relevant satellite measurements
- science software development experience and programming skills
- additional experience in modelling will be an asset
- good analytical and communication skills and ability to work in a multicultural environment in an autonomous manner
- research experience and peer-reviewed publications in relevant topics for the fields of research proposed.

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.

In addition to your CV and your motivation letter, please add your proposal of no more than 3 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 internal candidates and secondly to external 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.

*Member States, Associate Members or Cooperating States