

## Internal Research Fellow in Exploiting Earth Observations for Climate Research

**Job Req ID:** 14607

**Closing Date:** 14 February 2022

**Publication:** External Only

**Vacancy Type:** Internal Research Fellow

**Date Posted:** 17 January 2022

Internal 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

ECSAT, Harwell, United Kingdom

### Our team and mission

The goal of the ESA Climate Office (ECO) is to increase the use of satellite-based Earth Observation (EO) data in climate science. Making optimal use of European and worldwide satellite data, we focus our work on a range of Essential Climate Variables (ECVs) such as: land cover, land surface temperature, soil moisture, fire, biomass, lakes, permafrost, snow glaciers, ice sheets, sea ice, sea level, sea state, sea surface salinity, ocean colour, sea surface temperature, greenhouse gases, water vapour, ozone, aerosols, and clouds (<https://climate.esa.int/en/projects/>).

Our main activities are:

- To implement ESA's Climate Change Initiative (<https://climate.esa.int/en/esa-climate/esa-cci/>), of which the main objective is to generate robust, long-term, global satellite-derived datasets for key indicators of climate change, known as Essential Climate Variables or ECVs (as expressed by the Global Climate Observing System (GCOS)), tailored to the needs of the climate research and modelling communities worldwide.
- To generate such ECVs by carefully analysing climate user needs for long-term satellite-based observations and assessing their feedback on the fitness for purpose available climate data records.
- To perform scientific investigations, assess the data quality and develop the computational and modelling systems (e.g., data assimilation). An important part is also validation of the datasets produced against independent, space- and ground-based observations in collaboration with scientific users.
- To improve our understanding of key science questions posed by the changing climate and hence support the work of the Intergovernmental Panel on Climate Change (IPCC)

For more information, candidates are encouraged to visit the ESA websites: [www.esa.int](http://www.esa.int) and <https://climate.esa.int>

### **Field(s) of activity/research for the traineeship**

Your research will contribute to the activities of the ESA Climate Office, for example, through:

- the use of satellite-based observations in addressing key climate science questions. Any potential research project should include more than one (European and/or worldwide) satellite-derived variable (e.g., fire and biomass, land surface temperature and land cover, and ocean colour and salinity).
- the development of improved climate data records from satellite data, and/or improved methods of uncertainty characterisation, including the use of artificial intelligence and machine learning to improve or analyse satellite climate data records.
- investigations into the physical consistency between different satellite-derived climate data records (e.g., aerosol and cloud properties), and the impact of inconsistencies in the data on applications.
- the quality assessment and validation of satellite-based datasets for climate science
- improving public understanding of climate science (e.g., by developing and promoting GCOS Climate Indicators), developing educational and outreach resources, and raising awareness of ESA's climate activities.

You will have the opportunity to work in cooperation with relevant scientific projects under ESA's CCI programme.

### **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.

### **Additional requirements**

Applicants should have broad knowledge of climate research and of major international initiatives related to EO and climate research.

Applicants should have good analytical and communication skills and be able to work in a multicultural environment in a fairly autonomous manner.

The working languages of the Agency are English and French. A good knowledge of one of

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 10 pages outlining your proposed research in the "additional documents" field of the "applicant 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](mailto:contact.human.resources@esa.int).

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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, Lithuania, 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 and Slovakia as European Cooperating State (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 unbalanced 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.

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