

Job Title: Internal Research Fellow (PostDoc) in EO for Atmospheric Science

Req ID 9133 - Posted 13/02/2020



EUROPEAN SPACE AGENCY

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. Applications from women are encouraged.

Post

Internal Research Fellow (PostDoc) in EO for Atmospheric Science

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 of the Science, Applications & Climate Department of the Directorate of Earth Observation Programmes. You will work in close cooperation with other Directorate staff.

The Division is a dynamic R&D team leading research & development activities, in partnership with European and international industry and academia, aimed at advancing science, developing novel applications, supporting industrial growth and contributing to establishing a European ecosystem of exploitation platforms to maximise the impact of European missions on society.

Field(s) of activities/research

Overview of proposed field of research

ESA, together with the scientific community, is actively engaged in a number of scientific project development activities in the research field of atmospheric chemistry and dynamics aimed at:

- developing innovative methods, algorithms and products to improve capacity to observe and monitor the atmosphere;
- enhancing knowledge of potential ozone hole recovery including analysis of species in ozone chemistry;
- advancing capacity to better characterise elements of air pollution, including extensive use of data from ground-based instruments, e.g. Pandora, aerosol LIDAR;
- developing multi-mission joint products to support understanding of cloud and aerosol interaction;
- exploring innovative methods to estimate different components of the atmospheric part in the hydrological cycle;
- improving knowledge of greenhouse gas flux inversions, specifically CH₄ and CO₂.

The availability of Copernicus Sentinel-5p data, their synergies with Earth Explorers (e.g. Aeolus) and other data (including ground-based remote sensing) as well as exploitation of long-term EO data archives are opening up new frontiers for science and research in this field.

Specifically, the exploitation of atmospheric dynamics datasets in the context of improving the retrieval quality of algorithms for chemical species is to be investigated.

You will be involved in three main activities:

- 1) Supporting the scientific development, definition and technical supervision of science projects, carried out by external teams of experts and scientists, addressing mainly scientific product development activities for Copernicus Sentinel-5p and

the Aeolus mission.

- 2) Supporting ESA's interface and dialogue with the relevant scientific communities, including international science groups such as SPARC and IGAC. Further supporting dialogue with partner organisations such as Eumetsat and ECMWF.
- 3) Carrying out dedicated research focusing on the scientific exploitation of European and other EO missions with a special focus on fostering new methods, algorithms, products and innovative science results for aerosols and greenhouse gas concentrations.

You will also participate in setting up an Earth Science research area at ESRIN as a hub to attract young talent and world-class senior scientists and experts worldwide to work together to advance EO research and Earth system science.

You will also contribute to the ESA Atmosphere Science cluster aimed at promoting networking, collaborative research and fostering international collaboration in this area. The cluster involves various ESA-funded projects, scientists and activities bringing together various expertise, data and resources synergistically, thereby ensuring that the end-result is greater than the sum of the parts. With this approach, ESA wants to contribute to establishing a stronger European atmospheric research area in close collaboration with European and international partners.

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 must have completed PhD (or equivalent) studies in atmospheric chemistry or dynamics, physics, engineering or Earth science with research experience and peer-reviewed publications in relevant topics for the fields of research proposed.

Additional requirements

You should have experience in research on aerosol optical properties and trace gases, the use of related satellite and ground-based data and dedicated calibration/validation activities.

Experience with software development in the field of research, but also in a broader context, will be an asset.

You should have good analytical and communication skills and should be able to work in a multicultural environment autonomously.

Applicants must be fluent in English and/or French, the working languages of the Agency. Good proficiency in English is required.

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 12 March 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 Slovenia, as an Associate Member, or Canada as a Cooperating State, can apply as well as those from Bulgaria, Cyprus, Latvia, 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