

# Job Title: Earth Observation Ocean Scientist

Requisition ID 16087 - Posted 04/10/2022 - D/EOP - (Frascati) - ESRIN, Frascati, Italy - Internal & External



## EUROPEAN SPACE AGENCY

Vacancy 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 all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age, disability or other characteristics. Applications from women are encouraged.

### Post

#### Earth Observation Ocean Scientist

This post is classified A2-A4 on the Coordinated Organisations' salary scale.

### Location

ESRIN, Frascati, Italy

### Description

If selected for this position, you will report to the Head of the Science Section in the Data Applications Division within the Science, Applications and Climate Department of the Directorate of Earth Observation Programmes.

The Science Section is a dynamic R&D team leading fundamental Earth observation (EO) research and Earth system science in partnership with European and international scientific groups. Our goal is to foster scientific excellence and maximise the scientific impact of EO and ESA missions in terms of new methods, novel products and breakthroughs in Earth system science (visit our website at [eo4society.esa.int/communities/scientists](http://eo4society.esa.int/communities/scientists)).

You will lead the ocean science activities in the team, which will entail responsibility for setting up and implementing a scientific agenda to develop the next generation of EO ocean products, advancing ocean sciences and establishing a solid basis for novel applications and future mission concepts across ocean science domains and EO techniques, with a special focus on one or more of the following technologies: ocean microwave remote sensing including ocean SAR, SAR altimetry and passive microwave observations; optical ocean remote sensing including hyperspectral observations and advanced ocean biochemistry retrieval techniques.

This will involve developing and managing innovative projects and research activities that maximise the scientific impact of ESA's Earth Explorers, Sentinel missions and other European, national and international EO capabilities in close collaboration with the scientific community and international partners, and ensuring they are carried out successfully and on time.

As Earth Observation Ocean Scientist, you will also contribute to the Earth System Science Hub, a new science laboratory within ESA and a centre for networking and scientific collaboration among world-class researchers in ESA Member States and worldwide.

In the performance of your duties, you will work in close cooperation with other staff of the Directorate of Earth Observation Programmes.

### Duties

Under the leadership of the Head of the Science Section, you will be involved in the implementation of highly innovative R&D projects and research activities under ESA programmes, including the FutureEO Science for Society element ([eo4society.esa.int](http://eo4society.esa.int)), ESA science ocean and polar clusters, the J ESA-EC-RTD joint Earth System Science Initiative and new initiatives such as Sentinel User Preparation.

You will be in charge of defining and implementing a scientific agenda to advance the field of EO for ocean sciences, fostering the development of innovative methods, new techniques, novel products and science results aimed at establishing a solid scientific basis for the next generation of operational EO products, future applications and novel EO mission concepts.

As Earth Observation Ocean Scientist, you will oversee the development and management of innovative projects maximising the scientific impact of ESA missions, with a special focus on the exploitation of the relevant Earth Explorers and Sentinel missions in synergy with other EO capabilities (e.g. meteorological missions, national and international EO missions, commercial missions), as well as on preparation for the scientific exploitation of the next Sentinel expansion and Sentinel NG missions.

Your main tasks will include:

- managing the ESA Ocean Science Cluster, fostering collaboration across projects and teams and engaging in a continuous dialogue with the scientific community through workshops and consultations to assess progress, as well as identifying scientific needs and opportunities in the domain of EO for ocean sciences;
- leading the definition, preparation and implementation of advanced innovative projects and initiatives for the development and validation of novel retrieval methods, techniques, algorithms and data products, exploiting novel mission capabilities and synergistic aspects;
- leading the definition, preparation and implementation of advanced EO for ocean science activities, maximising the scientific impact of satellite technology in ocean research across domains\*;
- supporting the preparation for the scientific exploitation of the next Sentinel expansion and Sentinel NG missions with a focus on synergistic and innovative aspects beyond single-mission goals and capabilities;
- leading the development of dedicated open science tools, initiatives and virtual labs, fostering a collaborative community approach to the scientific development, validation, intercomparison and exploitation of polar research, oceanography and novel altimetry methods, new products, and science results;
- fostering international scientific collaboration and partnerships with major international scientific group, partners space agencies and JESA / EC-RTD Joint Earth System Science Initiative;
- leading internal research activities as part of the ESA Science Hub in collaboration with external partners and visiting scientists, including supervising and supporting the work of internal and external research fellows and Young Graduate Trainees;
- supporting scientific outreach, communication and advanced education activities, fostering promotion of ESA scientific results mainly among the younger generation of scientists.

## **Technical competencies**

Knowledge in active microwave ocean remote sensing or optical ocean remote sensing

Knowledge of EO ocean science, climate science, Earth system and applications

Knowledge of the relevant scientific communities, latest results and advances, international and European programmes and initiatives

Experience in Project management, communication, and reporting

Knowledge about ESA Earth Observation missions and programmes

## **Behavioural competencies**

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

## **Education**

A PhD in a relevant discipline such as engineering, Earth science, computer science, polar research, oceanography, climate science or data science is required for this post.

## **Additional requirements**

- - For active microwave remote sensing for oceanography, a focus on SAR and/or SAR altimetry is required
- - For optical ocean remote sensing, a focus on hyperspectral observations and/or advanced ocean biochemistry retrieval techniques is required
- Knowledge of EO ocean science in domains\* such as ocean carbon, ocean-atmosphere interactions, ocean transport (energy, mass, gases), ocean health and ecosystems, land-ocean interactions and coastal processes, sea levels, coastal hazards, ocean extremes, Arctic and Antarctic Oceans, etc.
- Knowledge of data-intensive science, digital technology and platforms applied to EO and Earth system sciences

- Some knowledge of passive microwave technology and the related science and applications for ocean and polar science will be an asset
- Experience in the management and monitoring of research and development activities would be an asset
- At least four years of experience in related remote sensing data science and/or applications development and/or relevant research will be considered an asset

You should also have:

- the ability to interface with the scientific community, international partners and external scientific and industrial actors involved in ESA activities;
- excellent communication skills, both verbal and written;
- strong problem-solving skills to deal with day-to-day challenges;
- strong result orientation with the ability to set priorities and present practical solutions;
- the potential to manage/supervise trainees (interns/Young Graduate Trainees) and the ability to organise their activities and ensure a motivating work environment;
- the ability to manage challenging situations proactively and constructively, with demonstrated planning and organisational skills.

International experience outside your home country, as well as experience in diverse functional areas relevant to ESA activities, is an asset.

## Other information

For behavioural competencies expected from ESA staff in general, please refer to the [ESA Competency Framework](#).

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.

The Agency may require applicants to undergo selection tests.

## The closing date for applications is 01 November 2022.

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).

## For more information:

HR Advisor: Cristiana Gerli, [cristiana.gerli@esa.int](mailto:cristiana.gerli@esa.int)

Recruiting Manager: Diego Fernandez Prieto, [diego.fernandez@esa.int](mailto:diego.fernandez@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, the United Kingdom and Canada, Latvia, Lithuania and Slovenia.

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.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.

\*Member States, Associate Members or Cooperating States.