

EUROPEAN SPACE AGENCY

DestinE Earth System Data Scientist

Job Req ID: 14363

Closing Date: 09 January 2022

Publication: Internal & External

Vacancy Type: Fixed-Term

Date Posted: 10 December 2021

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.

This is a non-renewable post for a limited duration of four years and is classified A2-A4 on the Coordinated Organisations' salary scale.

Location

ESRIN, Frascati, Italy

Description

DestinE Earth System Data Scientist in the Data Applications Division, Science Applications and Climate Department, Directorate of Earth Observation Programmes.

The objective of the Destination Earth (DestinE) Initiative is to develop a very high-precision digital model of the Earth to monitor and simulate natural and human activity, and to develop and test scenarios that would enable more sustainable development and support European environmental policies. DestinE will contribute to the European Commission's Green Deal and Digital Strategy.

The DestinE Initiative will be implemented by ESA in partnership with the ECMWF (the European Centre for Medium-Range Weather Forecasts) and EUMETSAT under the system authority of the European Commission (DG CNECT). ESA has a leadership role in the definition of the DestinE architecture and its operational services. ESA is also responsible for the DestinE Core Service Platform implementation and operations as well as the DestinE system integration and validation.

Complementary to DestinE, an ESA Programme Proposal called Digital Twin Earth & Universe (DTE&U) is in preparation. Should this programme also be approved for implementation, major aspects of the programme implementation would also fall under your responsibility.

Duties

Under the hierarchical authority of the Head of the Data Applications Division and the functional authority of the DestinE Project Manager, you will be tasked with interfacing with the scientific community and will be responsible for the development and integration of new Earth system components into the DestinE core platform.

Your responsibilities will include:

- cooperating on a day-to-day basis with the EOP teams working on DTE activities;
- managing the interface with the European and international scientific community in several key sectors (such as water cycle, carbon cycles, food systems and agriculture,

- etc.) with a focus on regional and national priorities;
- developing an uptake mechanism to add existing capabilities from Member States into the DTE Core Platform to address specialised regional and national priorities;
- engaging key users and stakeholders through workshops and collaborative efforts to capture operational needs and policy requirements;
- leading R&D for innovation and integration of specialised (sectorial) research on Earth system science components and EO-based applications including:
 - Advanced HR EO datasets providing advanced characterisation of the Earth system components at regional, national and basin scales;
 - Integration of specialised Earth-system modelling capabilities and data assimilation of novel HR data products;
 - Specialised data processing capabilities (e.g., AI, modelling capabilities) connecting the Earth system to human activities and ecosystems reaching advanced analysis capabilities and interactive simulation functionalities;
 - Scientific assessment of the algorithms and modelling techniques; Overall process validation, qualification and performance assessment;
- promoting the use of DestinE and applied cases demonstrating for scientific research and evidence-based solutions for policy makers;
- leading the preparation of an R&D agenda in collaboration with the scientific community to expand DestinE towards new sectors and develop new capabilities beyond 2023;
- contributing to further R&D activities in the context of FutureEO-1 Block 4 element;
- supporting the programme proposal definition on Digital Twin Earth & Universe (DTE&U) and its subsequent implementation as regards Earth System Science aspects.

Technical competencies

Experience in the management and monitoring of research and development activities

ESA Earth Observation missions and programmes

Knowledge of EO as regards Earth system science, applications developments, and data assimilation

Knowledge of Intense data science, AI, HPC and digital platforms

Behavioural competencies

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

Education

A Ph.D. in a relevant discipline such as engineering, Earth science, computer science, environment, ecology, ecosystem science or data science is required for this post.

Additional requirements

Specialist professional experience in one of the following areas would be an advantage:

- Knowledge of the international scientific community
- Experience in platform-based EO analytics development
- Knowledge of EO data processing and retrieval techniques
- AI-based processing of geospatial or environmental data
- Integration of EO/geospatial data with local and regional Earth system and ecosystem models

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.

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, 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 view of the limited duration of this post, internal candidates are strongly advised to contact their HR advisor before applying.

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.