

**JOB TITLE: GAIA-CLIM ENGINEER**

*Type and duration of contract:* Fixed-term contract under German employment law ending on 28<sup>th</sup> February 2018, the end of the H2020 GAIA-CLIM project.

*Location:* Darmstadt, Germany

*Salary:* Minimum EUR 7,000 gross per month

*How to apply:* Please send your CV and letter of motivation to [recruitment@eumetsat.int](mailto:recruitment@eumetsat.int) quoting "GAIA-CLIM Engineer application" in the Subject line. The closing date for applications is 27<sup>th</sup> May 2015.

**Background**

The post of the GAIA-CLIM engineer is located in the Climate Service Team that is part of the User Support and Climate Services Division (USC) of the Operations and Services to Users Department. The Climate Service Team is responsible for the development, generation and quality evaluation of climate data records for radiance and geophysical products using EUMETSAT and 3<sup>rd</sup> Party satellite data.

The post holder will be responsible for the establishment of an evaluation capacity for satellite climate data records for radiance and geophysical parameters that includes ground-based reference observations and global Numerical Weather Prediction model reanalysis output. The post holder will lead the establishment of a so-called Virtual Observatory by collating measurements from EUMETSAT satellite instruments in spectral ranges relevant to atmospheric temperature, humidity and constituents with ground-based reference observations from the Global Reference Upper Air Network (GRUAN), the Total Carbon Column Observing Network (TCCON) and others. The post holder will apply radiative transfer models to the ground-based reference data to enable comparison to radiance data. The collocated data base will be used to evaluate satellite instrument data also including satellite-satellite collocations as produced for inter-satellite calibration. The work will be performed in the framework of the EU Horizon 2020 Gap Analysis for Integrated Atmospheric ECV CLimate Monitoring (GAIA-CLIM) project (<http://www.gaia-clim.eu>) in which EUMETSAT is a funded partner.

The post-holder will have a strong collaboration with other EUMETSAT scientists and engineers and a close cooperation with external scientists and engineers in the H2020 GAIA-CLIM project.

**Major Duties**

- To undertake method and software development work within the Horizon 2020 project GAIA-CLIM;
- To ensure timely and effective progress of the EUMETSAT contributions to the GAIA-CLIM project:
  - Development and implementation of scientific software to create and analyse collocations of satellite data with in situ reference data;
  - Design, implementation, maintenance, and administration of a relational database holding the collocated data;

- Development of diagnostic measures and associated graphics needed for data quality evaluation. These diagnostics will span from verifying the integrity of the collocations (pre-analysis) to being able to subsample, e.g., spatially, regionally, meteorologically, per satellite, etc and perform statistical uncertainty analysis;
- Contribution to the analysis of the relative value of the comparison to in situ reference data versus comparison to NWP data and direct satellite-satellite collocations with respect to instrument evaluation/calibration of satellite radiance data;
- Establishment of technical access to in situ reference data including definition of interfaces (e.g., formats, meta data, etc.) and collection of data;
- Integration of software delivered by project partners into the EUMETSAT infrastructure;
- Compilation of documentation of all progress and software developments related to the project and project result presentations;
- Presentation of GAIA-CLIM results at project progress meetings, GAIA-CLIM workshops and conferences, as verbal presentation and posters.

### **Educational/academic qualifications**

University degree (or equivalent) in a relevant discipline.

### **Experience and job skills**

Mandatory skills:

- Basic understanding of satellite meteorology related to climate;
- Demonstrable experience in measurement uncertainty analysis and/or validation of satellite products;
- Experience in designing, developing, implementing, or maintaining database management systems such as PostgreSQL, MySQL or others;
- Demonstrable experience in developing scientific software using higher programming languages, such as C/C++, and FORTRAN and in using scripting languages to organise data processing, such as Python, Perl, and Shellscript;
- Strengths in analysis, synthesis and presentation, coupled with good interpersonal skills and a proven ability to apply these to the interactions within a team and between teams in international environment.

Advantageous skills:

- Experience in the use of radiative transfer models in the visible and infrared wavelengths;
- Experience in development of web applications using GWT server/client framework, Java, JavaScript, HTML and CSS is an advantage;
- Knowledge of data formats such as NetCDF4, HDF5, GRIB, and BUFR.