

# VN 25/14 Research Fellowship Use of Atmospheric Motion Vectors in NWP (ECMWF)

This interesting role is based at the European Centre for Medium-Range Weather Forecasts (ECMWF) in Reading, United Kingdom, and aimed at the enhanced exploitation of satellite wind information for Numerical Weather Prediction. The Research Fellow will be in charge of advancing the use of Atmospheric Motion Vectors (AMVs) derived from cloud motions in polar and geostationary satellite observations in ECMWF's global weather forecast system. The successful candidate will be providing important feedback on AMV product developments to space agencies, in particular EUMETSAT. They will join the Earth System Assimilation Section in the Research Department at ECMWF, working at the forefront of the use of satellite data for Numerical Weather Prediction.

ECMWF is a world leader in Numerical Weather Predictions providing high-quality data for weather forecasts and environmental monitoring. As an intergovernmental organisation, we collaborate internationally to serve our members and the wider community with global weather predictions, data and training activities that are critical to contribute to safe and thriving societies.

The success of our activities depends on the funding and partnerships of the 35 Member and Co-operating States who provide the support and direction of our work. Our talented staff together with the international scientific community, and our powerful supercomputing capabilities, are the core of a 24/7 research and operational centre with a focus on medium and long-range predictions. We also hold one of the largest meteorological data archives in the world.

Our vision: The strength of a common goal

Our mission: Deliver global numerical weather predictions focusing on the medium-range and monitoring of the Earth system to and with our Member States

ECMWF is a multi-site organisation, with its headquarters in Reading, UK, a data centre in Bologna, Italy, and a large presence in Bonn, Germany, as a central location for our EU-related activities. ECMWF is internationally recognised as the voice of expertise in



## LOCATION

Reading, United Kingdom



## QUALIFICATIONS

University degree in Physics, Maths or Meteorology or equivalent and relevant research experience, ideally including PhD or equivalent study.



## LANGUAGES

Candidates must be able to work effectively in English and a good knowledge of one of the ECMWF's other working languages (French or German) is desirable but not essential.



## DEADLINE

16 March 2025

## Duties

- Monitoring and assessment of the quality of AMVs from different geostationary and polar orbiting satellites in the operational ECMWF assimilation system. This includes evaluation of new AMV products from upcoming EUMETSAT missions such as Meteosat Third Generation and Metop Second Generation.
- Research and development targeted at advanced exploitation of AMVs in the ECMWF system, such as through extended and refined use of the data (e.g., around tropical cyclones), improved treatment of random or systematic errors, or novel approaches to interpret AMVs.
- Assessment of the interaction between assimilation of AMVs and the derivation of wind information through the direct assimilation of cloud-affected radiances.
- Liaison with space agencies (particularly EUMETSAT) regarding AMV processing developments and new advances.

## Skills and Experience

- The Fellow should have a good university degree in Physics, Maths or Meteorology or equivalent and relevant research experience, ideally including PhD or equivalent study. Experience in satellite data analysis and/or data assimilation is particularly desirable.
- Strong computing skills are essential, as the job will involve (a) understanding and modifying the forecasting system, which is mainly written in Fortran-90 and Unix scripts, and (b) making statistical analyses and scientific figures using tools like Python, IDL or Metview.
- The role requires strengths in scientific analysis, synthesis and presentation, and effective

time-management skills are highly desirable. Good interpersonal and team working skills are also required, with dedication and enthusiasm to work independently as well as in a small team.

- Candidates must be able to work effectively in English and a good knowledge of one of the ECMWF's other working languages (French or German) is desirable but not essential.

## Employment Conditions

The Fellowship is for a maximum of five years. The initial contract offered is for one-year, with the possibility of two extensions of two years each. The start date is expected to be 1 October 2025, or as soon as possible thereafter.

The role is expected to be based at the ECMWF Headquarters in Reading, Berkshire, United Kingdom. The successful applicant and members of their family forming part of their household will be exempt from immigration restrictions.

The successful candidate will be recruited at the A2 grade, according to the scales of the Co-ordinated Organisations and the annual basic salary will be **£73,094 net of tax**. This position is assigned to the employment category STF-PS as defined in the Staff Regulations of ECMWF, with the exception of the removal expenditure which is reimbursed within the agreed ceiling laid down by EUMETSAT.

Full details of salary scales and allowances are available on the ECMWF website at [www.ecmwf.int/en/about/jobs](http://www.ecmwf.int/en/about/jobs), including the ECMWF's Staff Regulations regarding the terms and conditions of employment.

**EUMETSAT is committed to providing an equal opportunities work environment for men and women.**

**Please note that only nationals of EUMETSAT Member States may apply. The EUMETSAT Convention requires that Staff shall be recruited on the basis of their qualifications, account being taken of the international character of EUMETSAT.**

## About EUMETSAT

EUMETSAT is Europe's meteorological satellite agency. Its role is to establish and operate meteorological satellites to monitor the weather and climate from space - 24 hours a day, 365 days a year. This information is supplied to the National Meteorological Services of the organisation's Member States in Europe, as well as other users worldwide.

EUMETSAT also operates several Copernicus missions on behalf of the European Union and provide data services to the Copernicus marine and atmospheric services and their users.

As an intergovernmental European Organisation, EUMETSAT has 30 Member States (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.)

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