

VN 22/26 reissue Earth Observation Scientist at Met Office

EUMETSAT and the Met Office are looking for an exceptional Earth Observation Scientist, to help us make a difference to our planet.

This position is within the EUMETSAT Research Fellowship programme, and applicants are invited to apply from all EUMETSAT member states.

The successful applicant will join the Space Applications and Nowcasting team at the Met Office (Exeter, UK). They will collaborate with Met Office scientists, playing a key role in research and development activities to improve the geophysical interpretation of satellite information and its use in weather nowcasting and forecasting.

The Met Office provides critical weather services and world-leading climate science to deliver extraordinary impact and benefit across the globe. This position will allow you to collaborate with the scientific community at the forefront of meteorology and contribute towards improving weather forecasts using latest hyperspectral satellite sounding instruments. Our work helps people make better decisions to stay safe and thrive.

The Met Office delivers scientific, technological and operational expertise and provide critical services. Its people work together to deliver extraordinary impact, making us one of the most trusted forecasters in the world.

The Met Office's values are as follows:

- **We're a force for good** - focusing on our environmental and social impact
- **We're experts by nature** - always learning and developing to do things better
- **We live and breathe it** - putting our purpose at the heart of decision-making
- **We're better together** - understanding partnerships and inclusivity make us greater
- **We keep evolving** - pushing boundaries to make tomorrow better for our customers

Find out more about the Met Office's values - <https://bit.ly/3fokaRD>

The applicant's work will be directed towards the diagnosis of convective instability in the atmosphere for use in nowcasting. The



LOCATION
Exeter, UK



QUALIFICATIONS
PhD in a relevant scientific area or equivalent experience.



LANGUAGES
Candidates must be able to work effectively in English, both verbally and written.



DEADLINE
30 April 2023

work will be based upon radiances measured by hyperspectral satellite sounding instruments such as the Infrared Sounder (IRS) on board the upcoming Meteosat Third Generation (MTG) satellite mission. The work will also involve the use of Numerical Weather Prediction (NWP) fields. This will include development of instability indices or other layer quantities derived from 1D or 3D analyses. Instability indices are commonly used for situational awareness and the nowcasting of convective storms, but are currently not optimised for application to satellite soundings. The successful applicant will explore whether alternative instability indicators can be developed that make more optimal use of the information content of hyperspectral IR radiances such as those from MTG-IRS.

The use of NWP background fields is key to extracting useful information from satellite radiances. Retrieved products developed by the applicant should be presented in a way that highlights where the satellite observations have added information beyond that already present in the background. Furthermore, retrieved profiles are highly sensitive to the specification of background error covariances. The applicant will explore improving the use of background information (including the use of ensemble forecasts) and methods for conveying the added instability information compared with the NWP background. Met Office expertise in data assimilation will be key in progressing this aspect of the work.

Duties

As Earth Observation Scientist, your key responsibilities are:

- Act as the local expert in utilising data from hyperspectral infrared sounders such as IASI and MTG-IRS; with data from NWP; and with methods for combining sounder data and NWP data (such as 1D-Var);
- Develop links with Operational Meteorologists (forecasters) and verification scientists at the Met Office, using their experience to help select
- Develop new diagnostics of convective instability which utilise hyperspectral IR observations, and compare the performance of these with existing diagnostic products;
- Implement successful new diagnostic products in the Met Office's Satellite Processing System, and publish methods and results externally where applicable;
- Maintain regular

case study periods and develop metrics for assessing the performance of convective instability diagnostics;

interaction with the scientific community at EUMETSAT.

Skills and Experience

- **Experience and knowledge:** PhD in a relevant scientific area or equivalent experience with extensive experience and proven track record of relevant scientific research, and ability to plan and deliver scientific research projects;
- **Strong analytical skills** including a demonstrated ability to apply broad scientific knowledge to specific problems and scenarios relevant to the Met Office;
- Strong **scientific computing skills:** Demonstrated experience of writing, modifying and running scientific software codes and demonstrated experience of leading or supporting significant scientific software development;
- A strong **team player** with an ability to support and interact with scientific and technical colleagues. Demonstrated experience of providing scientific leadership (e.g. coaching and mentoring) to junior staff;
- Excellent **communication** skills are required (written, oral, presentation and listening). Demonstrated ability to communicate scientific and technical information to specialists and non-specialists, and to interact with them in a clear and concise manner with influence and authority.

Employment Conditions

Why join the Met Office?

The Met Office provides critical weather services and world-leading climate science to deliver extraordinary impact and benefit across the globe. Their work helps people make better decisions to stay safe and thrive.

As Earth Observation Scientist, you could be appointed into either the Scientist or Senior Scientist role depending on skills and experience.

As a Senior Scientist, your starting salary would be £37,418 and you would have opportunities to progress to £41,159 over time. As a Scientist, your starting salary would be £30,932 and you would have opportunities to progress to £33,925 over time; New joiners to the Met Office will start on the salary band minima.

The EUMETSAT Research Fellowship supporting this position lasts 3 years; this contract will be offered initially for 1 year, with the prospect of being extended up to a further two years, subject to approval by EUMETSAT.

As a Senior Scientist, your total reward package is potentially worth up to £51,847 annually, which includes basic salary, potential corporate bonus and employer pension contributions. Relocation Assistance may be available.

Your package includes:

- Outstanding UK Civil Service Pension
- Flexible hours and homeworking
- Annual Leave starting at 27.5 days (plus Bank Holidays) rising to 32.5 days (plus Bank Holidays) after 5 years and option to buy or sell up to 5 days per year of annual leave
- Cycle to work scheme for the purchase of a bicycle and equipment to support healthy, low carbon travel
- Access to discounted shopping, inclusive of retail, leisure and lifestyle brands

The Earth Observation Scientist will work a hybrid pattern of homeworking and from the Met Office Exeter HQ.

How to apply:

Click Apply and attach your CV and a Cover Letter which evidences how you meet the essential criteria.

If successful, please note we are unable to offer expenses for travel to your normal place of work. Please ask at interview if you would like extra clarity on how often this requirement is likely to be.

How we can help:

If you are considering applying and need assistance to do so, please contact us via askHR@metoffice.gov.uk. You can request adjustments either within your application or by contacting us. Should you be offered an interview, please be aware there may be a selection exercise which could include a presentation, written test or a scenario-based activity.

You can select in your application to be considered under the Disability Confident (Guaranteed Interview) Scheme. To be invited to interview/assessment under this scheme, your application must meet the essential criteria for the role.

We are an equal opportunities employer, welcoming applications from those with all protected characteristics. We recruit on merit, fairness, and open competition in line with the Civil Service Code. Applications will not be returned.

As this is a position funded by EUMETSAT, nationals of EUMETSAT Member States may apply. The Met Office will issue necessary supporting documents for a successful candidate to obtain a UK visa and all costs incurred related to UK visa application costs will be reimbursed on request.

The successful applicant will be required on an annual basis to report to EUMETSAT in Darmstadt, Germany. Additional UK and overseas travel may be required to attend conferences or events as part of this post.

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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