

# Job Title: Microwave Instrument Engineer

Req ID 6922 - Posted 18/09/2018



## 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. Applications from women are encouraged.

### Post

#### Microwave Instrument Engineer

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

### Location

ESTEC, Noordwijk, The Netherlands

### Description

Microwave Instrument Engineer, Future Missions and Instruments Division, Future Systems Department, Directorate of Earth Observation Programmes.

### Duties

Reporting to the Head of the Microwave Instruments Section, the postholder will be responsible for the definition, engineering, technology bread boarding and pre-development of microwave instruments for future Earth Observation research missions – e.g. Earth Explorers (Core, Fast-Track) and Missions of Opportunity – and operational missions, e.g. Earth Watch, Copernicus and meteorology missions.

The types of instrument developed in-Section include passive microwave imagers/sounders for ocean, land and atmospheric sensing, GNSS-RO and GNSS-R instruments as well as active instruments such as scatterometers, altimeters, synthetic aperture radars (SAR), subsurface sounders and atmospheric radars. Their frequency coverage extends to the sub-mm wave range. The postholder will be engaged in the study and pre-development of one or several of these types of instrument, which could be passive or active.

Duties include:

- identifying and investigating new observation principles, techniques and technology in coordination with staff in this Department, the Science, Applications & Climate Department and D/TEC, including interfacing with research and technical groups as required;
- maintaining knowledge of relevant technology status and instrument development programmes inside and outside ESA, including developments undertaken by other space agencies in Europe and worldwide, as well as commercial initiatives such as under NewSpace, in close collaboration with the Division's Technology Coordination & Frequency Management Section;
- defining and assessing the performance and technological readiness of new microwave EO instruments in close collaboration with the EO system engineers of the Division's Mission & System Studies Section,
- taking into account mission, system and programmatic objectives and requirements;
- defining, initiating and managing industrial contracts for the study and risk-retirement of new microwave instruments, according to the agreed activity plan;
- performing risk-retirement activities through technology bread boarding and pre-development of microwave instruments for future EO missions (including Earth Explorer, Earth Watch, Copernicus, meteorology) up to their completion, coordinating instrument pre-development activities with project teams when required;
- developing ground-based or airborne instrument models, according to the concepts' maturity and performance-

demonstration needs;

- providing expert support to the Division for the microwave payload aspects of missions undergoing evaluation or preparation, including for evaluation of mission proposals, microwave instrument support to Phase 0/A and mission architecture studies, contributing to the preparation of technical and scientific dossiers on new Earth Observation research missions and operational missions;
- defining, developing, maintaining and upgrading microwave instrument dimensioning and performance models and tools to assess new instrument concepts.

The postholder will work in close cooperation with other staff from the Division and from the Directorate of Earth Observation Programmes and will also liaise with the Directorate of Technology, Engineering & Quality (D/TEC) and other Directorates involved in microwave engineering activities.

### **Technical competencies**

Knowledge of technical domains and related R&D space industry trends

Knowledge of innovation-related processes

Experience in spaceborne microwave instrument development

Familiarity with microwave remote sensing techniques

### **Behavioural competencies**

Continuous Learning

Customer Focus

Innovation & Creativity

Problem Solving

Results Orientation

Teamwork

### **Education**

Applicants should have a PhD or Master's degree in electrical/electronic engineering or physics.

### **Additional requirements**

Candidates are expected to be able to contribute to a dynamic and creative environment in preparatory phases of EO missions. They should have good interpersonal skills and be able to work and interact within small teams as well as autonomously. Experience in working in team/project environment is desirable.

Familiarity with microwave remote-sensing techniques such as passive microwave imaging/sounding, altimetry and atmospheric radar sensing, and experience of hardware development and performance analysis models/tools, are desirable.

At least 7 years's relevant experience in remote-sensing microwave instruments and associated development.

### **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 10 October 2018.**

If you require support with your application due to a disability, please email [contact.human.resources@esa.int](mailto:contact.human.resources@esa.int).

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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 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 Member States. (<http://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.