391_23_ES_AEMET_RE1-2/R1-2

Job Reference

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Position

Postdoctoral position on satellite-based emission plume detection and quantification (R2)

Data de tancament

Dimecres, 31 Gener, 2024


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About BSC

The Barcelona Supercomputing Center - Centro Nacional de Supercomputación (BSC-CNS) is the leading supercomputing center in Spain. It houses MareNostrum, one of the most powerful supercomputers in Europe, was a founding and hosting member of the former European HPC infrastructure PRACE (Partnership for Advanced Computing in Europe), and is now hosting entity for EuroHPC JU, the Joint Undertaking that leads large-scale investments and HPC provision in Europe. The mission of BSC is to research, develop and manage information technologies in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof, and currently has over 900 staff from 55 countries.

Look at the BSC experience:

BSC-CNS YouTube Channel
Let's stay connected with BSC Folks!

We are particularly interested for this role in the strengths and lived experiences of women and underrepresented groups to help us avoid perpetuating biases and oversights in science and IT research.

Context And Mission

The Atmospheric Composition group from the Earth Sciences department at the BSC-CNS is looking for a postdoctoral researcher willing to work on the development of a satellite-based emission plume detection and quantification tool to estimate and monitor CO2, NO2 and CO emissions from urban and industrial Spanish hotspots.
The position will be in charge of developing and implementing a plume detection and emission quantification method based on TROPOMI, O-CO2/O-CO3 and other high-resolution satellite observations. The resulting tool will be part of a Spanish near-real time greenhouse gas anthropogenic emission monitoring system developed within a large initiative on the “Modernization of observation networks and digitalization of production processes for the development of intelligent meteorological services in the context of climate change” in the framework of the European Recovery, Transformation, and Resilience Plan funded by the European Union - Next Generation EU.

The successful applicant will work closely with atmospheric scientists and computational engineers that will support the interpretation and analysis of the emission results obtained and the technical development of the tool.

**Key Duties**

- Develop satellite-based methods for the retrieval of CO2, NO2 and CO concentration enhancements and subsequent plume detection.
- Process large volumes of satellite data to derive relevant information for the identification and quantification of industrial and urban emission hotspots.
- Participate in the writing of papers in peer-reviewed journals.
- Support the analysis and validation of the results obtained.
- Interact and collaborate with scientists and computational engineers within the Earth Sciences Department and from external collaboration institutes involved in the use of satellite data for emissions characterization.

**Requirements**

- **Education**
  - A Ph.D. degree in environmental engineering, physics, data science, remote sensing or similar.

- **Essential Knowledge and Professional Experience**
  - Strong experience with satellite data processing methods.
  - Strong experience in atmospheric emissions and characterization of emission sources.
  - Demonstrated scientific expertise, including but not limited to a record of scholarly publications.
  - Experience in programming and code development (python, fortran, R).
  - Originality and critical thinking in assessing the quality of data from different sources.
  - Ability to initiate and maintain extensive contacts within the scientific community.

- **Additional Knowledge and Professional Experience**
  - At least 2 year experience in similar fields.

- **Competences**
  - Very good interpersonal skills.
  - Excellent written and verbal communication skills.
  - Ability to take initiative, prioritize and work under set deadlines.
  - Ability to work both independently and within a team.
Conditions

- The position will be located at BSC within the Earth Sciences Department
- We offer a full-time contract (37.5h/week), a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, restaurant tickets, private health insurance, support to the relocation procedures
- Duration: Open-ended contract due to technical and scientific activities linked to the project and budget duration
- Holidays: 23 paid vacation days plus 24th and 31st of December per our collective agreement
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Starting date: ASAP

Applications procedure and process

All applications must be made through BSC website and contain:

- A full CV in English including contact details
- A Cover Letter with a statement of interest in English, including two contacts for further references - Applications without this document will not be considered

In accordance with the OTM-R principles, a gender-balanced recruitment panel is formed for every vacancy at the beginning of the process. After reviewing the content of the applications, the panel will start the interviews, with at least one technical and one administrative interview. A profile questionnaire as well as a technical exercise may be required during the process.

The panel will make a final decision and all candidates who had contacts with them will receive a feedback with details on the acceptance or rejection of their profile.

At BSC we are seeking continuous improvement in our recruitment processes, for any suggestions or feedback/complaints about our Recruitment Processes, please contact recruitment [at] bsc [dot] es.

For more information follow this link

Deadline

The vacancy will remain open until a suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.
OTM-R principles for selection processes

BSC-CNS is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit-based Recruitment principles (OTM-R). This is applied for any potential candidate in all our processes, for example by creating gender-balanced recruitment panels and recognizing career breaks etc.
BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.
For more information follow this link

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