151_21_ES_AC_R2

Job Reference

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Position

Postdoc Researcher - Modeling mineral dust interactions and feedbacks within the Earth System (R2)

Data de tancament

Dimarts, 30 Novembre, 2021
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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, and is a hosting member of the PRACE European distributed supercomputing infrastructure. 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 700 staff from 49 countries.

Look at the BSC experience:
BSC-CNS YouTube Channel
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Context And Mission

We are looking for an outstanding researcher to join the Atmospheric Composition (AC) group within the Earth Sciences department at the BSC-CNS. The AC group aims at better understanding and representing the spatiotemporal variations of atmospheric pollutants along with their effects upon air quality, weather and climate. This is addressed through the continuous development and application of numerical models over multiple scales, from weather to climate and from global to urban scales.

The successful applicant will closely work with other group members towards the goal of representing dust variability at multiple time scales across the 20th and 21st centuries along with the associated dust interactions across the Earth System. The position will involve 1) contributing to the development of model
components—e.g. updating the dust cycle including emission, size distribution and deposition terms, updating dust optical properties, refining interactions with chemistry, radiation and clouds, and/or coupling the dust cycle with the dynamic vegetation model—and 2) research on dust variability and/or effects upon climate. The successful applicant will work with the EC-Earth Earth System Model (EC-Earth ESM), which is developed by the EC-Earth consortium, gathering a number of national weather services and universities currently across Europe including BSC. EC-Earth includes IFS for the atmosphere, NEMO for the ocean, LIM for the sea-ice, TM5 for atmospheric chemistry and aerosols, and LPJ-GUESS for the land surface. The successful candidate will contribute to ongoing and future national and European research projects addressing the role of aerosol species in the climate system. These include the ERC Consolidator Grant Frontiers in Dust Mineralogical Composition and its Effects upon Climate (FRAGMENT), with collaborators across Europe and the US, and the EU H2020 collaborative project Constrained aerosol forcing for improved climate projections (FORCeS), with partners across Europe.

**Key Duties**

- Develop model components related to dust and its interactions in the Earth System
- Compile observations for model evaluation
- Run model experiments on the BSC supercomputers
- Evaluate model experiments with observations
- Develop original research and analysis strategies
- Participate in collaborative projects with partner institutions
- Present results at international meetings
- Publish results in high-impact peer-reviewed journals
- Contribute ideas for new research projects
- Contribute to the intellectual life of the AC group, including meetings and collaborations
- Other duties include contributing to the development common analysis tools; assisting in grant applications; and other duties as assigned

**Requirements**

- **Education**
  - PhD in Atmospheric Chemistry, Environmental engineering, Meteorology, Physics, or related discipline

- **Essential Knowledge and Professional Experience**
  - Advanced understanding of atmospheric aerosol, particularly of dust aerosol and its effects
  - Experience in atmospheric, climate, chemistry or aerosol model developments (0-2 years)
  - Excellent computing skills in high-level computer languages (FORTRAN is required) (3-5 years)
  - Experience with UNIX/LINUX environments and with scripting languages (such as bash) (3-5 years)
  - Experience atmospheric science data formats (NetCDF) and with scientific software and tools (CDO, NCO, Python or R) (0-2 years)

- **Additional Knowledge and Professional Experience**
  - Previous experience on the EC-Earth model or any of its components will be valued
  - Knowledge on 20th century climate variability and/or aerosol forcing will be valued
  - Fluency in English
• Competences
  o Very good interpersonal skills
  o Excellent written and verbal communication skills
  o Ability to take initiative, prioritize and work under set deadlines
  o 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, a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
• Duration: Temporary - 2 years renewable
• 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 of rejection of their profile.

For more information follow this link

Deadline

The vacancy will remain open until 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
This position is reserved for candidates who meet the requirements and have the legal status of disabled persons with a degree of disability equal to or greater than 33%. In case there are no applicants with disabilities that meet the requirements, the rest of the candidates without declared disability will be evaluated.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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