Job Reference

21_ES_AC_R2

Position

Atmospheric emission modeler - R2

Data de tancament

Diumenge, 28 Gener, 2018

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 500 staff from 44 countries.

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Context and Mission

The Atmospheric Composition group from the Earth Science department at the Barcelona Supercomputing Center develops and maintains the NMMB-MONARCH model and the CALIOPE air quality system (“CALIdad del aire Operacional Para España”), which provides high-resolution air quality forecasts over Europe and Spain using the in-house emission model HERMES. The group follows a multidisciplinary approach, closely collaborating with other research groups within the department (Earth System Services and Computational Earth Sciences) to support theirs tasks.
The group searches for one postdoctoral researcher willing to coordinate the emission modelling research line and support the execution of projects related to technology transfer. The position will coordinate the development of the multiscale (from urban- to global-scale) HERMESv3.0 emission model, including the implementation of bottom-up and top-down emission estimation methodologies, buildup of activity data, emission factor and emission inventory databases and geographical and temporal proxies on inter- and trans-disciplinary collaboration with other projects at the Earth Science department and external partners. As part of this task, the successful applicant will work in the Copernicus CAMS-81 project developing meteorological and statistical-dependent temporal emissions profiles at the global and regional scale. The applicant will be also involved in the preparation of competitive grant proposals in line with the strategic plan of the department and on-going projects and collaborations related to air quality modelling and air quality planning.

**Key Duties**

- Coordinate the development of the HERMES emission model and its coupling with the NMMB-MONARCH system
- Contribute to the improvement and constant upgrade of the CALIOPE air quality system
- Support to projects for evaluating the effectiveness of air quality plans
- Develop emission scenarios suitable for studies of air quality planning
- Prepare national, European and international competitive grant proposals
- Publish of scientific papers in high-impact journals
- Participate in national, European and International Forums and workshops related to air quality

**Requirements**

**Education**

- PhD in Environmental Engineering or similar

**Essential Knowledge and Professional Experience**

- More than 5 years working within the field of emission model development and analysis
- Experience running and interpreting results from global and/or regional air quality/emission/meteorological models
- Strong skills in working in a Linux environment
- Demonstrated verbal communication and technical presentation skills
- Excellent analytical and organizational skills

**Additional Knowledge and Professional Experience**

- Programming languages (R, Python, ssh, bash)
- Experience in data formats (NetCDF, GRIB, HDF5) and tools (CDO, NCO) used in Earth sciences.
- Experience in HPC environments
- Experience in GIS software
- Strong technical writing skills
- Previous experience in a scientific area related to the research position

**Competences**

- Fluency in spoken and written English, while fluency in other European languages will be also valued
- Capability to work as member of a research team, but also independently
- Ability to work in a professional environment and within a multidisciplinary research team
- Problem-solving, pro-active, result-oriented work attitude
- Capability to work in an international and fast-paced work environment towards tight deadlines
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 hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Duration of the contract: 3 years
- Starting date: February 2018

Applications Procedure

All applications must include:

- A motivation letter with a statement of interest, including two contacts for further references
- A full CV including contact details

Deadline

The vacancy will remain open until suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.

Diversity and Equal Opportunity Employment

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.

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