580_24_ES_GHR_RE2

Job Reference

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Position

Research Engineer - Data Science for Climate and Health (RE2) - AI4S

Data de tancament

Dilluns, 16 Setembre, 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 1000 staff from 60 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. In instances of equal merit, the incorporation of the under-represented sex will be favoured.

We promote Equity, Diversity and Inclusion, fostering an environment where each and every one of us is appreciated for who we are, regardless of our differences.

If you consider that you do not meet all the requirements, we encourage you to continue applying for the job offer. We value diversity of experiences and skills, and you could bring unique perspectives to our team.

Context And Mission

The Global Health Resilience (GHR) group led by ICREA Research Professor Rachel Lowe at the BSC-CNS is seeking a highly motivated data scientist to co-create robust harmonized datasets and dashboards for decision-support tools to enhance surveillance, preparedness, and response to global health challenges, including climate-sensitive infectious diseases.

The GHR group conducts cutting-edge methodological research on disentangling the impacts of global environmental change on infectious disease risk and co-developing impact-based forecasting models at sub-seasonal to decadal timescales in collaboration with public health, disaster risk management, and humanitarian agencies. The GHR group works closely with the Earth System Services (ESS) group, whose mission is to research the impact of weather, atmospheric chemistry and climate upon socio-economic sectors, including renewable energy, agriculture, water management, forest fires, urban development and health and demonstrate the ongoing value of earth system services to society and the economy.

The selected candidate will conduct data audits and exploratory data reports to summarise characteristics, biases and completeness of both open-source and stakeholder provided data to provide decision-support at multiple spatial scales and different forecasting horizons. They will perform data linkage, involving post-processing, downscaling, integration, harmonization and machine learning techniques, and visualization of multi-source, multi-scale epidemiological, climatic, environmental, demographic, socio-economic, human movement, and health systems datasets. They will develop dashboards to summarise and visualisation multi-sourced data and facilitate communication with the team and stakeholders and prepare and deliver material for stakeholder training and capacity building activities. They will lead the GHR data management plan and curation of data within the department. The successful candidate will benefit from interdisciplinary training opportunities tailored to their experience and interests, working in close collaboration with the Data and Diagnostics team that co-develops the analysis packages. The research will be positioned within the context of WMO’s Global Framework for Climate Services (GFCS), whose aim is to provide actionable climate information to key sectors of society, including health. This position presents an opportunity to work alongside a wide range of leading international climate and health scientists delivering cutting-edge climate services for the health sector to inform policy makers in Latin America and the Caribbean, Asia, Europe, and worldwide.

Successful candidates will benefit from expert training and BSC-CNS staff benefits: international multidisciplinary scientific environment and advanced applied research training. We encourage applications from highly motivated candidates with demonstrated experience in impact modelling for public health and an interest in applied research in the context of climate and environmental change.

The funding for these actions/fellowships and contracts comes from the European Union Recovery and Resilience Facility - Next Generation, within the framework of the General Invitation by the public business entity Red.es to participate in the talent attraction and retention programs within Investment 4 of Component 19 of the Recovery, Transformation, and Resilience Plan.
For more information, please check: https://www.bsc.es/join-us/excellence-career-opportunities/ai4s

"La financiación de estas actuaciones/becas y contratos, procede del Mecanismo de Recuperación y Resiliencia de la Unión Europea-Next Generation, en el marco de la Invitación General de la entidad pública empresarial Red.es para participar en los programas de atracción y retención del talento dentro de la Inversión 4 del Componente 19 del Plan de Recuperación, Transformación y Resiliencia.
Para más información: https://www.bsc.es/join-us/excellence-career-opportunities/ai4s "

Key Duties

- Co-create decision support systems to enhance public health resilience to climate change
- Conduct data audits of existing epidemiological, health system and environmental information
- Process, clean, and verify the integrity of data to be used for analysis
- Perform Extraction, Transform and Load (ETL) processes
- Process real-time climate and health impact forecasts to feed into operational decision-support tools
- Conduct exploratory statistical analyses and create exploratory data analysis reports
- Produce dashboards and design innovative ways to visualise data
- Develop training materials for researchers, data managers and stakeholders
- Communicate research results at scientific conferences and in refereed journals
- Support applications for competitive grants and projects
- Coordinate core activities of the global health resilience group
- Support administrative duties of the group, including arranging meetings, taking minutes, writing deliverable and mission reports, maintaining Wiki/webpages, etc.
- Engage with local stakeholders, data managers and policy makers
- Lead the data management plan and curation of shared resources
- Develop open-source data and modelling tools
- Organise and coordinate technical training courses and workshops with external partners

Requirements

- Education
    - BSc and MSc in Statistics, Mathematics, Computer Science, Meteorology, Environmental Sciences, Physics, Public Health, Geography, Demography, Epidemiology, or equivalent

- Essential Knowledge and Professional Experience
    - Experience in data management and statistical analyses
    - Strong programming skills in a suitable language (e.g., R, Python) and experience with git
    - Excellent written and verbal communication skills in English, demonstrated in scientific publications and/or well documented repositories
    - Ability to work in a collaborative professional environment within a transdisciplinary and international team
    - Experience with Linux environments and scripting languages (e.g., bash)
    - Experience using data visualization packages, mapping tools and dashboard creation (e.g., Shiny, etc.)

- Additional Knowledge and Professional Experience
    - Fluency in English is essential. Proficiency in Spanish and other languages would be advantageous
    - Experience with statistical downscaling and bias adjustments techniques
    - Experience with machine learning methods
    - Experience with data from the field of climate and environmental sciences
    - Experience in the processing and evaluation of satellite/drone images and geodata (e.g., GIS)
    - Experience working with public health stakeholders and international agencies

- Competences

    - Ability to work in a team and in a multi-cultural environment
    - Problem-solving, pro-active, result-oriented work attitude
    - Excellent communication skills
    - Ability to show initiative, prioritize tasks and meet deadlines
    - Ability to learn and adapt to multiple programming languages easily

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
- Duration: 4 years
- Holidays: 23 paid vacation days plus 24th and 31st of December per our collective agreement
- Salary: 42.00,00€
- Additional Expenses Grant: Each fellowship will be associated with a grant for additional expenses, such as IT equipment, travel, training, stays, etc.
- Starting date: asap - the incorporation for this vacancy must be before the 16th of December 2024

Applications procedure and process

All applications must be submitted via the BSC website and contain:

- A full CV in English, including contact details.
- A cover/motivation letter with a statement of interest in English, clearly specifying for which specific area and topics the applicant wishes to be considered. Additionally, two references for further contacts must be included. Applications without this document will not be considered.

Development of the recruitment process

The selection will be carried out through a competitive examination system ("Concurso-Oposición"). The recruitment process consists of two phases:

1. **Curriculum Analysis:** Evaluation of previous experience and/or scientific history, degree, training, and other professional information relevant to the position. - ***40 points***
2. **Interview phase:** The highest-rated candidates at the curriculum level will be invited to the interview phase, conducted by the corresponding department and Human Resources. In this phase, technical competencies, knowledge, skills, and professional experience related to the position, as well as the required personal competencies, will be evaluated. - ***60 points.*** *A minimum of 30 points out of 60 must be obtained to be eligible for the position.*

The recruitment panel will be composed of at least three people, ensuring at least 25% representation of women.

In accordance with OTM-R principles, a gender-balanced recruitment panel is formed for each vacancy at the beginning of the process. After reviewing the content of the applications, the panel will begin the interviews, with at least one technical and one administrative interview. At a minimum, a personality questionnaire as well as a technical exercise will be conducted during the process.

The panel will make a final decision, and all individuals who participated in the interview phase will receive feedback with details on the acceptance or rejection of their profile.

At BSC, we seek continuous improvement in our recruitment processes. For any suggestions or comments/complaints about our recruitment processes, please contact recruitment [at] bsc [dot] es.

For more information, please 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
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.

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