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# Research Engineer Securing Processing Environments for Analysing Sensitive Data (RE3) - AI4S

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## Recruitment App Link

<https://webapps.bsc.es/recruitment/job/3611>

## Website Node ID

64296

## Job Reference

517\_24\_LS\_INB\_RE3

## Position

Research Engineer Securing Processing Environments for Analysing Sensitive Data (RE3) - AI4S

## Closing Date

Tuesday, 15 October, 2024

**Reference:** 517\_24\_LS\_INB\_RE3

**Job title:** Research Engineer Securing Processing Environments for Analysing Sensitive Data (RE3) - AI4S

### 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 Spanish National Bioinformatics Institute (INB) was created in 2003 with the mission to support bioinformatics activities across the country. Since then, it has evolved to keep up with emerging needs - especially in the field of creating, maintaining and extending technological infrastructures that facilitate research activities in the broad domain of Life Sciences. Since 2017, the INB is the Spanish Node of ELIXIR (ELIXIR-ES), the pan-European Research Infrastructure for the management of research data and other digital assets in Life Sciences across 22 national members and 3 observers (<https://elixir-europe.org/>).

Both the INB Technical Coordination Hub and the INB Computational Node, part of the Life Sciences Department at the Barcelona Supercomputing Center (BSC-CNS), participate and lead different local, national and international - mainly European - projects relate to research data and software management as well as to the set-up of virtual research environments where data and software can be utilised.

Existing and upcoming regulations, like the European Health Data Space, Data Governance Act or Artificial Intelligence Act, will accelerate existing technological developments to facilitate the analysis of sensitive data (e.g. patient-level data, IPR-protected data, etc...) in dedicated environments for that end. In this context, the INB Computational Node has developed a virtual research environment (openVRE) that is being utilised in various projects at local, national and European projects. The openVRE offers a controlled, sandboxed environment where incoming and outgoing data is pre-configured as well as the software, either individual tools or complete analytical pipelines, and the management of users. This major development is completed by WfExS (<https://github.com/inab/WfExS-backend>) which is a high-level workflow orchestrator designed to facilitate the analysis of sensitive data. WfExS implements community-driven standards to facilitate the technical interoperability with other existing solutions in the community.

Currently, those pieces are brought together as part of the EU-funded EOSC-ENTRUST project (<https://eosc-entrust.eu/>), which aims to build a blueprint at European level interconnecting different Secure Processing Environments (sometimes referred as Trusted Research Environments) taking into account different deployment scenarios, maturation levels and users requirements. Thus, the objective is, therefore, to bring together all existing technological components, incorporate the regulatory perspective and make the necessary developments to upgrade existing technological products or create new ones if necessary, having into account that any development should be sustainable and highly flexible to facilitate its broad use across projects and deployment scenarios.

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

- Landscape the current developments around secure processing environments across domain in Europe taking into account existing and upcoming regulations
- Analyze the current Virtual Research Environment features to extend and develop new ones, if necessary, to support trustable data analytics in the context of major institutional, local, national and european projects and initiatives using sensitive, non disclosable data.
- Evaluate current trusted communication channels among relevant data repositories and archive and design, developing whenever necessary, strategies for data sharing.
- Design and implement the necessary mechanisms to ensure the long-term sustainability of software using community-led good practices, including continuous integration and deployment mechanisms.

## Requirements

- Education
  - › BA degree in data-driven fields or computer science engineering.
  - › MS degree in data-driven fields or computer science engineering.
  - › Or highly vocational Education (FP II)
- Essential Knowledge and Professional Experience
  - › At least, five (5) years of experience in cloud computing and virtual research environments.
  - › At least, five (5) years of experience in data management APIs (like EGA, Zenodo, B2SHARE, Dataverse or similar).
  - › At least, five (5) years of experience in database design and management (SQL and noSQL)

- **Additional Knowledge and Professional Experience**
  - › Experience in clinical data management.
  - › Experience in authentication/authorisation protocols.
  - › Experience in continuous integration and continuous deployment mechanisms.
  - › Experience on software validation and certification.
  - › Experience on technical project management.
  - › Knowledge of security frameworks (e.g., ISO 27001, NIST standards), encryption, and privacy-preserving technologies.
  - › Fluency in English is essential. Proficiency in Spanish and other European languages would be advantageous.
  
- **Competences**
  - › Ability to understand scientific literature, and software documentation.
  - › Ability to communicate scientific results.
  - › Ability to work independently, in a team and in a multi-cultural environment.
  - › Ability to represent the team in international project meetings.

## **Conditions**

- The position will be located at BSC within the Life 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: 50.000,00 €
- 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@bsc.es](mailto:recruitment@bsc.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.

## Application Form

You are applying for the following job offer

517\_24\_LS\_INB\_RE3

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Name and Surname \*

---

Gender \*\* \*

Female

Male

Other

Email \*

---

Nationality\*\* \*

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Where did you first see this job offer (Please indicate the name of the website, social media,



referral etc.)? \*

please choose one of this and if needed describe the option : - BSC Website - Euraxess - Spotify - HiPeac - LinkedIn - Networking/Referral: include who and how - Events (Forum, career fairs): include who and how - Through University: include the university name - Specialized website (Metjobs, BIB, other): include which one - Other social Networks: (Twitter, Facebook, Instagram, Youtube): include which one - Other (Glassdoor, ResearchGate, job search website and other cases): include which one

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### Upload CV (select the file, then click the Upload button) \*

Examinar... No se ha seleccion...o ningún archivo.

Upload

**i** Please, upload your CV document using the following name structure: **Name\_Surname\_CV**

Files must be less than **3 MB**.

Allowed file types: **txt rtf pdf doc docx**.

### Cover Letter (optional) (if so, select the file and then click the Upload button)

Examinar... No se ha seleccion...o ningún archivo.

Upload

**i** Please, upload your CV document using the following name structure: **Name\_Surname\_CoverLetter**

Files must be less than **3 MB**.

Allowed file types: **txt rtf pdf doc docx zip**.

### Other Documents (optional) (if so, select the file and then click the Upload button)

Examinar... No se ha seleccion...o ningún archivo.

Upload

**i** Please, upload your CV document using the following name structure: **Name\_Surname\_OtherDocument**

Files must be less than **10 MB**.

Allowed file types: **txt rtf pdf doc docx rar tar zip**.

\*\* Consider that the information provided in relation to gender and nationality will be used solely for statistical purposes.

Data policy: \*

I accept the data policy \*

Other: \*

I confirm that the information given in this form is true, complete and accurate.

Submit

## FIND US

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Fondo Europeo de Desarrollo Regional  
"Una manera de hacer Europa"



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**Fons Social Europeu**  
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## **Barcelona Supercomputing Center, 2024**

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