



Offre n°2025-09150

CNRS Research Engineer : Spack/Guix Software Packaging and Continuous Integration for Supercomputers (Grenoble/Bordeaux/Saclay)

Type de contrat : Fixed-term contract

Contrat renouvelable : Oui

Niveau de diplôme exigé : Graduate degree or equivalent

Autre diplôme apprécié : Master's degree, Engineer's degree or PhD in computer science

Fonction : Temporary scientific engineer

Niveau d'expérience souhaité : Recently graduated

A propos du centre ou de la direction fonctionnelle

The Centre Inria de l'Université de Grenoble groups together almost 600 people in 22 research teams and 7 research support departments.

Staff is present on three campuses in Grenoble, in close collaboration with other research and higher education institutions (Université Grenoble Alpes, CNRS, CEA, INRAE, ...), but also with key economic players in the area.

The Centre Inria de l'Université Grenoble Alpes is active in the fields of high-performance computing, verification and embedded systems, modeling of the environment at multiple levels, and data science and artificial intelligence. The center is a top-level scientific institute with an extensive network of international collaborations in Europe and the rest of the world.

Contexte et atouts du poste

We are looking for candidates with a **Master's degree, Engineer's degree or PhD in computer science, junior or senior**, to join a team responsible for the packaging, deployment and testing of software libraries for supercomputers.

Our team is distributed and so we have the flexibility to offer candidates **2 different possible locations:**

- Datamove team (<https://team.inria.fr/datamove/>) located near **Grenoble, in the French Alps**,
- SED team (<https://sed-bso.gitlabpages.inria.fr/>), located near **Bordeaux, close to the Atlantic Ocean**,
- Maison de la Simulation teams (<https://mdls.fr/>), located at Saclay, close to Paris.

Duration: initial contract of **3 years (CNRS is the employer) with possible extension**.

Hiring dates are flexible with a possible start from November 2025 (modulo mandatory administrative deadlines). We will process applications as they arise.

This work is part of the NumPEX project (<http://www.numplex.fr>) endowed with more than 40 million euros over 6 years from 2023, to build a software stack for Exascale supercomputers related to the arrival in Europe of the first Exascale machines, with one planned in France for 2025. These machines will be among the most powerful in the world (<https://top500.org/>), used for traditional scientific applications and increasingly also for artificial intelligence.

Our role in NumPEX is to design and implement an innovative packaging, deployment and testing strategy. Commonly used solutions show their limits in front of the complexity of supercomputers and applications, as well as the need for reproducibility for open science. Our goal is to build a solution based on a new generation of software packaging tools: Guix, Spack.

You can have a look at the team activity at <https://numplex-pc5.gitlabpages.inria.fr/tutorials> or <https://hpc.guix.info>. We also regularly contribute to the discussions on software production at the International INPEX workshops (<https://inpx.science/#workshops-events>).

Mission confiée

You will contribute to the design and implementation of the packaging and continuous integration strategy. You will participate in the deployment and testing of the infrastructure. You will also participate to user support and to training activity around all these aspects.

Our packaging strategy is centered on the open source tools **Guix** (<https://hpc.guix.info/>), and **Spack** (<https://spack.io/>). In direct contact with the development teams of these tools, with the supercomputer administration teams, and software developers, you will participate in:

1. the design of the packaging strategy of the NumPEX project,
2. the effort of packaging libraries for supercomputers, from standards (MPI, PETSC, Pytorch,...) to applications.

3. the design of a package test and validation solution taking into account the specificities of supercomputers (High performance network, ARM and X86 arch, GPUs)
4. the development of a solution allowing non-administrator users to deploy software stacks on supercomputers.
5. training around all of these aspects for researchers and engineers, whether they are library designers or users.

Compétences

Master's degree, Engineer's degree or PhD, beginner or confirmed (salary adjusted according to experience) in computer science.

The essential expected skills are:

1. Good practice of Unix/Linux and system administration
2. Good programming experience (C/C++, Python)
3. Experience with software compilation and installation chains, version management tools, testing and continuous integration (CMake, Git, GitHub, GitLab, etc...).
4. The work being performed in an international context, a good practice of technical English (written and oral) is expected (proficiency in French is not compulsory), as is a taste for team work.
5. Any additional skill related to package managers (Guix, Nix, Spack, apt, rpm,...), containers (Singularity/Apptainer, Docker,...) or open source development are a plus.

An initial training time will be provided to complement the missing skills.

You will integrate an academic research environment which will give you, throughout your contract, the opportunity to complete your training on cutting-edge technologies.

To apply, please send, in addition to the classic elements, any information that could help us assess your skills, such as a recent internship or thesis report, your github account or links to software developments in which you participate, as well as some references from people we can contact to certify your qualities.

Avantages

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)

- Possibility of teleworking (90 days / year) and flexible organization of working hours (except for internship)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage under conditions

Rémunération

From 2,692 € (depending on experience and qualifications).

Base of 2692€ gross / month. Wage according to the profile.

Informations générales

- **Thème/Domaine** : Distributed and High Performance Computing
Software engineering (BAP E)
- **Ville** : Saint Martin d'Heres
- **Centre Inria** : [Centre Inria de l'Université Grenoble Alpes](#)
- **Date de prise de fonction souhaitée** : 2025-11-01
- **Durée de contrat** : 3 years
- **Date limite pour postuler** : 2025-09-30

Contacts

- **Équipe Inria** : [DATAMOVE](#)
- **Recruteur** :
Raffin Bruno / bruno.raffin@inria.fr

A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 200 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.

Consignes pour postuler

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.