



Offre n°2025-08862

Post-Doctoral Research Visit F/M Towards a Language-Agnostic Virtual Machine for Live Programming

Type de contrat : Fixed-term contract

Niveau de diplôme exigé : PhD or equivalent

Fonction : Post-Doctoral Research Visit

A propos du centre ou de la direction fonctionnelle

The Inria Centre at Rennes University is one of Inria's eight centres and has more than thirty research teams. The Inria Centre is a major and recognized player in the field of digital sciences. It is at the heart of a rich R&D and innovation ecosystem: highly innovative PMEs, large industrial groups, competitiveness clusters, research and higher education players, laboratories of excellence, technological research institute, etc.

Contexte et atouts du poste

Within the framework of the Inria/CWI partnership: collaboration between the DiverSE team at Inria and the SWAT team at CWI in the context of the Associate team ALE and the Inria/CWI international partnership.

Is regular travel foreseen for this post ? travels to CWI to ensure the collaboration with the SWAT team in the context of the associate team ALE (gemoc.org/ale).

Mission confiée

The Agile Language Engineering (ALE) associate team represents a long and successful collaboration between Inria and CWI. Its focus is on improving software engineering through language engineering: both for the end-users and the language engineers themselves. One main topic in the team is live programming: programming while the application runs, without intermittent shutdown and restarts. A language engineering perspective on live programming requires rethinking the way languages are implemented. For this we propose the concept of LipVM: the Live and Interactive Programming Virtual Machine. Targeting this VM will allow language engineers to abstract from the technical challenging aspects of live programming, such as hot-swapping, state migration, back-in-time debugging, and orthogonal persistence.

The post-doc will contribute to developing this concept, its design, and its prototype implementation, performing research at the cutting edge of virtual machine engineering, language engineering, and programming language design, in close collaboration with Inria DiverSE and the Software Analysis & Transformation (SWAT) group at CWI. We expect that LipVM will be a stepping stone to bring live programming to programming languages, modeling languages, and domain-specific languages. The postdoc position will further strengthen the collaboration between Inria and CWI.

Principales activités

Main activities:

- ensuring cutting-edge research activities on software engineering and domain-specific languages, specifically to bring live programming accessible to any software language.
- contribute to the supervision of PhD students working in this area
- kick start the development of LipVM, a shared software project in the context of the ALE team
- participate to the ALE associate team, and the overall collaboration between Inria and CWI

Compétences

Technical skills and level required :

- high skills in software engineering and programming languages
- strong interest in language design and implementation, as well as language runtime

Languages :

- the working language is English, and the position requires a very good ability to speak and write in English

Relational skills :

- ability to work in an international context; and to develop an international collaboration

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 (after 6 months of employment) and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training

Rémunération

Monthly gross salary from 2 788 euros.

Informations générales

- **Thème/Domaine** : Distributed programming and Software engineering
Software engineering (BAP E)
- **Ville** : Rennes
- **Centre Inria** : [Centre Inria de l'Université de Rennes](#)
- **Date de prise de fonction souhaitée** : 2025-11-01
- **Durée de contrat** : 12 months
- **Date limite pour postuler** : 2025-06-28

Contacts

- **Équipe Inria** : [DIVERSE](#)
- **Recruteur** :
Combemale Benoit / benoit.combemale@irisa.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.

L'essentiel pour réussir

The candidate will demonstrate strong motivation in research and autonomy in the realization of research activities. The candidate will also appreciate the supervision of PhD students, and will contribute to the development of an international partnership.

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

Please submit online : your resume, cover letter and letters of recommendation eventually

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.