Offer #2025-09165

Post-Doctoral Research Visit F/M Methods for the analysis of quantum cryptographic protocols

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

About the research centre or Inria department

The Inria research centre in Lyon is the 9th Inria research centre, formally created in January 2022. It brings together approximately 300 people in 17 research teams and research support services.

Its staff are distributed in Villeurbanne, Lyon Gerland, and Saint-Etienne.

The Lyon centre is active in the fields of software, distributed and high-performance computing, embedded systems, quantum computing and privacy in the digital world, but also in digital health and computational biology.

Context

The position is in the QInfo team. The candidate will collaborate with Omar Fawzi and Alastair Abbott, and other members of the team.

Assignment

The candidate will conduct research and help with the supervision of masters and PhD students in the team.

Main activities

Main activities : Further develop the entropy accumulation methodology for the analysis of device independent protocols in quantum cryptography, both in terms

of the theoretical framework as well as numerical methods to compute the rates.

Additional activities : Transform numerical bounds into certified ones (potentially using proof assistants)

Benefits package

- 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 Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage under conditions

Remuneration

2788 € gross salary / month

General Information

- **Theme/Domain :** Algorithmics, Computer Algebra and Cryptology Scientific computing (BAP E)
- **Town/city :** Lyon
- **Inria Center :** Centre Inria de Lyon
- **Starting date :** 2025-10-01
- **Duration of contract :** 11 months
- **Deadline to apply :** 2025-08-31

Contacts

- **Inria Team :** QINFO
- **Recruiter :**
  Fawzi Omar / omar.fawzi@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

The keys to success

- Solid background in quantum information
- Motivation and hard work
- Willingness to collaborate with experimental physicists

Warning : you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Applications must be submitted online via the Inria website. Processing of applications submitted via other channels is not guaranteed.

Defence Security :
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST).Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :
As part of its diversity policy, all Inria positions are accessible to people with disabilities.