



Offer #2025-08869

Post-Doctoral Research Visit F/M Entanglement of Quantum states via moments and tensor analysis

Contract type : Fixed-term contract

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

Level of experience : Recently graduated

About the research centre or Inria department

The Inria centre at Université Côte d'Azur includes 42 research teams and 9 support services. The centre's staff (about 500 people) is made up of scientists of different nationalities, engineers, technicians and administrative staff. The teams are mainly located on the university campuses of Sophia Antipolis and Nice as well as Montpellier, in close collaboration with research and higher education laboratories and establishments (Université Côte d'Azur, CNRS, INRAE, INSERM ...), but also with the regional economic players.

With a presence in the fields of computational neuroscience and biology, data science and modeling, software engineering and certification, as well as collaborative robotics, the Inria Centre at Université Côte d'Azur is a major player in terms of scientific excellence through its results and collaborations at both European and international levels.

Context

Every year Inria International Relations Department has a few postdoctoral positions in order to support Inria international collaborations.

The postdoctoral contract will have a duration of 12 to 24 months. The default start date is November 1st, 2025 and not later than January, 1st 2026. The postdoctoral fellow will be recruited by one of the Inria Centres in France but it is recommended that the time is shared between France and the partner's country (please note that the postdoctoral fellow has to start his/her contract being in France and that the visits have to respect Inria rules for missions).

Assignment

Candidates for postdoctoral positions are recruited **after the end of their Ph.D. or after a first post-doctoral period**: for the candidates who obtained their PhD in the Northern hemisphere, **the date of the Ph.D. defense shall be later than September 1, 2022**; in the Southern hemisphere, **later than April 1, 2022**.

In order to encourage mobility, the postdoctoral position must take place in a scientific environment that is truly different from the one of the Ph.D. (and, if applicable, from the position held since the Ph.D.); particular attention is thus paid to French or international candidates who obtained their doctorate abroad

For a better knowledge of the proposed research subject :

A state of the art, bibliography and scientific references are available at the following URL: https://www-sop.inria.fr/members/Bernard.Mourrain/announces/25.04.Post_Doc_Inria_CWI_tex.pdf

Collaboration :

The recruited person will be in connection with

- Bernard Mourrain, scientific leader of Aromath team, Centre Inria d'Université Côte d'Azur, 2004 route des Lucioles, 06902 Sophia Antipolis, France and
- Monique Laurent, CWI Fellow, senior researcher at CWI, Networks and Optimization research group, CWI, Science Park 123, 1098 XG Amsterdam, The Netherlands.

She or he will be interacting with Marc-Olivier Renou (Junior Professor Chair at Inria Saclay in the team PhiQus) expert in Quantum Information and theoretical physics.

Main activities

- Analyse the requirements of the subject
- Propose new solutions for the problems described in the work proposal.
- Write reports and papers.
- Write prototype code
- Present the works' progress to partners, scientific community, ..

Skills

Technical skills and level required : good competencies in Geometry and Optimization. Skills in Tensor modeling and Quantum information are a plus.

Languages : english

Relational skills : good contact, willing to communicate.

Other valued appreciated : curiosity, imagination

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 (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
- Social security coverage

Remuneration

Contract duration : 12 to 24 months

Rémunérating : 2 927€ gross/month

General Information

- **Theme/Domain** : Algorithmics, Computer Algebra and Cryptology
Scientific computing (BAP E)
- **Town/city** : Sophia Antipolis
- **Inria Center** : [Centre Inria d'Université Côte d'Azur](#)
- **Starting date** : 2025-11-01
- **Duration of contract** : 2 years
- **Deadline to apply** : 2025-05-29

Contacts

- **Inria Team** : [AROMATH](#)
- **Recruiter** :
Mourrain Bernard / Bernard.Mourrain@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

- interest to dive in new topics
- ability to investigate different domains
- aptence for symbolic, numeric and effective methods
- cross-disciplinary knowledge in geometry, optimization, quantum information.

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

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.