



**Offer #2021-03809**

## **Post-Doctoral Research Visit F/M Postdoctoral position on Stochastic Networks**

**Contract type :** Fixed-term contract

**Level of qualifications required :** PhD or equivalent

**Fonction :** Post-Doctoral Research Visit

### **Context**

The postdoctoral position is part of an international project between INRIA Paris and Skoltech in Moscow.

The project is dedicated to research on stochastic networks.

Research will be conducted at INRIA in conjunction with the ERC Nemo program.

Candidates pre-selected by the teams will be assessed by the International Relations Department and evaluated by scientific experts.

Applications must be submitted to [postdoc-dri@inria.fr](mailto:postdoc-dri@inria.fr) before July 10, 2021 with all of the following documents:

- The completed summary sheet
- Research project including subject title, research program, work plan and planned visits during the postdoc, the duration of the post-doc (between 12 and 24 months) and the desired starting date (default start date is November 1st, 2021 and not later than January 1st, 2022)
- Detailed CV with a description of the PhD and a complete list of publications with the two most significant ones highlighted
- Motivation letter from the candidate
- 2 letters of recommendations
- Letters of support from the host Inria research team ([francois.bacelli@inria.fr](mailto:francois.bacelli@inria.fr)) and from the host international partner, Prof. S. Shlosman of Skoltech : [shlosman@gmail.com](mailto:shlosman@gmail.com)

### **Assignment**

Produce first class research.

### **Main activities**

Postdoctoral position on Stochastic Networks

The research will be focused on probability theory with a special emphasis on mean-field techniques. Here are the two main topics to be developed: 1) new mathematical approaches for the proof of the Poisson Hypothesis, which is instrumental in the context of replica mean field techniques; 2) applications to a variety of stochastic networks, in particular communication networks, in computational neuro-science in deep learning, or in the stochastic modeling of epidemics. The two topics are linked. In many practical problems, the Poisson Hypothesis is assumed or conjectured. The development of generic tools for this question is hence essential. The first topic will lead to a variety of computational results on networks which are typically not tractable otherwise. The second topic deals with the limiting behavior of this class of mean-field models.

### **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

## General Information

- **Theme/Domain** : Stochastic approaches
- **Town/city** : Paris
- **Inria Center** : [Centre Inria de Paris](#)
- **Starting date** : 2021-11-01
- **Duration of contract** : 2 years
- **Deadline to apply** : 2021-09-30

## Contacts

- **Inria Team** : [DYOGENE](#)
- **Recruiter** :  
Baccelli François / [Francois.Baccelli@inria.fr](mailto:Francois.Baccelli@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.

**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

Candidates pre-selected by the teams will be assessed by the International Relations Department and evaluated by scientific experts.

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### 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.