
**Contract type:** Public service fixed-term contract  
**Level of qualifications required:** PhD or equivalent  
**Fonction:** Post-Doctoral Research Visit  
**Level of experience:** Recently graduated

**Context**
The postdoc position is offered within the MATHERIALS team, which has an internationally recognized expertise in the mathematical study and development of numerical methods in computational statistical physics. The scientific fields covered by members of team range from the analysis of partial differential equations to stochastic processes and probabilistic methods, with a balanced positioning between fundamental theoretical studies and actual applications.

**Assignment**
The aim of the postdoctoral work will be to adapt successful methods from computational statistical physics to problems of machine learning, and demonstrate their efficiency on actual applications. Situations of interest include Bayesian inference on large data sets and/or training of neural networks using generalizations of stochastic gradient dynamics. This work will be supervised by Tony Lelièvre and Gabriel Stoltz.

**Main activities**
The postdoctoral fellow will conduct his/her research within the MATHERIALS team, based at Ecole des Ponts. He/She will write research articles and present his/her work in international conferences, both in the fields of computational statistical physics and machine learning (NIPS, AISTAT, ICML). He/She will also attend working groups and other activities of direct interest to the project at the Turing Institute in London.

**Skills**
Candidates are required to have experience in performing numerical simulations and devising new numerical methods.

**Benefits package**
- Subsidised catering service
- Partially-reimbursed public transport

**Remuneration**
- **Location:** CERMICS, Ecole des Ponts  
  6/8 avenue Blaise Pascal  
  77455 Marne-la-Vallée Cedex 2  
- **Gross Salary per month:** 2 653€ brut/mensuel

**Security and defense procedure:**
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.

**General Information**
- **Theme/Domain:** Optimization, machine learning and statistical methods  
  Scientific computing (BAP E)  
- **Town/city:** Champs-sur-Marne  
- **Inria Center:** CRI de Paris  
- **Starting date:** 2018-10-01  
- **Duration of contract:** 1 year, 6 months  
- **Deadline to apply:** 2018-05-31

**Contacts**
- **Inria Team:** MATHERIALS  
- **Recruiter:** Stoltz Gabriel / gabriel.stoltz@inria.fr

**The keys to success**
Applicants should hold a PhD in applied mathematics, statistics of computer science, with a competitive track record. They should either be familiar with models and techniques in machine learning and willing to learn methods from computational statistical physics, or, on the contrary, be familiar with techniques from computational statistical physics and willing to use them for machine learning problems.

**Conditions for application**
- **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.

**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.