



Offer #2024-07967

Post-Doctoral Research Visit F/M Posdoctoral position in geometry processing

Contract type : Fixed-term contract

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

About the research centre or Inria department

The Inria Saclay-Île-de-France Research Centre was established in 2008. It has developed as part of the Saclay site in partnership with **Paris-Saclay University** and with the **Institut Polytechnique de Paris**.

The centre has [40 project teams](#), 32 of which operate jointly with Paris-Saclay University and the Institut Polytechnique de Paris; Its activities occupy over 600 people, scientists and research and innovation support staff, including 44 different nationalities.

Assignment

This postdoc position will investigate several research directions, all having to do with geometry processing (analysis and synthesis of 3D shapes and analysis of datasets from a geometric standpoint):

o *Bundle-valued exterior calculus*: recent progress in my group has led to a new discretization of bundle-valued differential forms (i.e., antisymmetric tensors which, provided vectors, return non-scalar quantities). This is bound to have several consequences in terms of geometry processing, which could lead to new approaches to the computation of elastic deformation and/or new analysis tools for large datasets.

o *SDF-based generative AI*: Signed distance functions or harmonic functions could also be the basis for the automatic generation of 3D shapes using AI.

o *Fast solvers for geometry-processing*: recent results of our lab have shown tremendous improvements in computational timings for boundary integral problems. This is yet another direction towards which the candidate may be able to contribute new geometry processing tools.

Main activities

The candidate will perform research, write papers and help, at times, with reporting duties.

Skills

The candidate must have extensive experience in computer graphics and geometry processing, and in particular, with intrinsic triangulations, as proven by publications in these areas.

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 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

According to profile

General Information

- **Theme/Domain** : Interaction and visualization
Scientific computing (BAP E)
- **Town/city** : Palaiseau
- **Inria Center** : [Centre Inria de Saclay](#)
- **Starting date** : 2024-09-01
- **Duration of contract** : 2 years
- **Deadline to apply** : 2024-08-10

Contacts

- **Inria Team** : [GEOMERIX](#)
- **Recruiter** :
Desbrun Mathieu / mathieu.desbrun@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

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.