



Offer #2025-08845

PhD Position F/M Augmented Reality for Situated Outdoor Geospatial Data Visualization

Contract type : Fixed-term contract

Level of qualifications required : Graduate degree or equivalent

Fonction : PhD Position

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.

Context

This PhD is part of the Inria "Défi" GéolAug project in collaboration with BRGM:

<https://inria.fr/fr/geolaug>

The candidate will be working at the [ILDA](#) team, at Inria Saclay, but will be involved in multidisciplinary work between both institutes.

Assignment

Augmented Reality (AR) superimposes information in the user's field of view and is particularly relevant to outdoor contexts of use, where users can access digital data and seamlessly relate those data to their physical surroundings. This can be useful for leisure activities (outdoor games, tourism), but in a variety of work contexts as well such as urban planning, construction work, and a variety of scientific activities.

To take one particular example, geologists often need to access data about the location they are currently visiting: terrain models, soil sample data analyses, databases and documents about the area, including maps. Augmented Reality can provide effective support to such users, by enabling them to display data in their field of view, directly integrating digital information with the physical environment. Users can then interact with the virtual content using freehand gestures, combining them with pen-based input on a handheld tablet when relevant.

However, designing visualization techniques for such outdoor contexts raises multiple challenges that stem from the scale of the physical environment considered, varying outdoor conditions (weather, natural light), the need for geologists to effectively switch between different situations, and the need for geologists to orient themselves and plan the next steps of their terrain explorations, among many others.

The goal of this PhD is to design, prototype and evaluate interaction techniques and visualization techniques to effectively support geologists in the field, addressing the above challenges using combinations of interactive devices: augmented reality eyewear; handheld tablets and digital pens; and a combination thereof.

More details about the PhD offer can be found in the following link:

https://ilda.saclay.inria.fr/jobs/PhD_GeolAug_WP3.pdf

Main activities

Described in previous section.

Skills

Training in Human-Computer Interaction. Design and software development skills, in addition to user evaluation and prototyping methods. Knowledge of Unity, WebXR or other Augmented Reality/Virtual Reality development frameworks is a big plus.

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

2200€ gross/month

General Information

- **Theme/Domain** : Interaction and visualization Information system (BAP E)
- **Town/city** : Palaiseau
- **Inria Center** : [Centre Inria de Saclay](#)
- **Starting date** : 2025-09-01
- **Duration of contract** : 3 years
- **Deadline to apply** : 2025-07-31

Contacts

- **Inria Team** : [ILDA](#)
- **PhD Supervisor** :
Pena Araya Vanessa / vanessa.pena-araya@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.