# Offer #2024-08491

# Post-Doctoral Research Visit F/M DIPTYQUE project: acquisition and rendering of animated furniture for realistic museographic reproduction

**Contract type :** Fixed-term contract

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

**Other valued qualifications :** Doctorate in Computer Science, specializing in Computer Graphics or Computer Vision

**Fonction :** Post-Doctoral Research Visit

## About the research centre or Inria department

The Inria center at the University of Bordeaux is one of the nine Inria centers in France and has about twenty research teams.. The Inria centre is a major and recognized player in the field of digital sciences. It is at the heart of a rich R&D and innovation ecosystem: highly innovative SMEs, large industrial groups, competitiveness clusters, research and higher education players, laboratories of excellence, technological research institute...

## Context

**24-month post-doctoral contract in the Inria Manao team in Bordeaux.**

**Contact : romain.pacanowski@inria.fr**

As part of the “CMN Numérique” program, which aims to standardize the production of
3D models and reuse them in various contexts (mediation, maintenance,
research, etc.), the National Monuments Center (CMN) has produced a collaborative 3D
experience, including an ultra-realistic reproduction of the Château d'Azay-le-Rideau, in the Centre Val de Loire region of France. Developed in Unreal Engine 5, it
includes a 3D model of the château's exterior. Today, the park has been reconstructed
including the water mirror, the staircase and four Renaissance rooms. The
next step is to virtually furnish these rooms using
with around 10 pieces of furniture (beds, chests, chests of drawers).

CMN is also seeking to restore diptych shutters from Le Corbusier's cabanon
located on the Cap Moderne site in the PACA region of France. They consist of a mirrored side and a painted side.

Rather than resorting to manual computer graphics work, the general aim of the project is to
to develop the lightest, most automatic digital acquisition method possible
and a real-time rendering method.

This work will be carried out in conjunction with the Centre des monuments nationaux, and travel
both sites and at headquarters (Paris).

# Main activities

The successful candidate will be responsible for the following tasks:
- Develop a lightweight, calibrated acquisition method that can be easily used by museum and heritage site professionals.
- Develop a representation and rendering method associated with the acquisition acquisition method in order to
- render furniture under different lighting conditions (artificial, outdoor) and from different
different points of view
- Animate furniture (e.g., drawers opening)
- Implement the rendering method in an Open-Source protype
- Study the feasibility of integrating the rendering method developed into a commercial
such as Unreal Engine.

## Skills

Skills in AI applied to graphical computing are a plus, particularly in terms of notions of Gaussian Splattings or NERF.

## Benefits package

Subsidised catering

Public transport partially reimbursed

Leave: 7 weeks' annual leave + 10 days' RTT (full-time basis) + possibility of exceptional leave (e.g. sick children, moving house)

Possibility of partial teleworking and reorganisation of working hours

Professional equipment available (videoconferencing, loan of IT equipment, etc.)

Social, cultural and sports benefits (Association de gestion des œuvres sociales d'Inria)

## Remuneration

Gross monthly salary of €2,788 (before taxes)

## General Information

- **Theme/Domain :** Interaction and visualization
  Software engineering (BAP E)
- **Town/city :** Talence
- **Inria Center :** Centre Inria de l'université de Bordeaux
- **Starting date :** 2025-03-01
- **Duration of contract :** 2 years
- **Deadline to apply :** 2025-08-31

## Contacts

- **Inria Team :** MANAO
- **Recruiter :**
  Roy Marie-melissandre / marie-melissandre.roy@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

Please include the following information in your application:
- CV with list of publications (indicate the date of your PhD defence)
- letter of motivation
- letter of recommendation if you have one

**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.