

**Annexe 1 : Fiche de projet Chaire de professeur junior CPJ**  
(à renseigner pour chaque CPJ 2023)

**Supporting institution /organization:** CNRS

Head of the institution/organization: A PETIT

Site: Bordeaux, Marseille

Academic Region: Provence-Alpes-Côte d'Azur, Nouvelle Aquitaine

**Partners Organizations:** Université de Bordeaux, Aix Marseille Université

**Proposed host laboratories:**

Bordeaux : PACEA, IMB,

Marseille : MESOPOLHIS, I2M.

**Project name:** Mobilities and circulations: the light of mathematical models

**Acronym:** MOBIMATHS

**Keywords:** circulation-mobility-diffusion-networks (human beings, objects, goods, knowledge, technologies, techniques, epidemics, information).

**Target duration:** 5 years

**Scientific topic:** Holder of a PhD or equivalent degree or proof of scientific qualifications and work deemed equivalent by the competent authority of the institution. There is no age or nationality requirement to apply.

All CNRS jobs are accessible to people with disabilities, with special arrangements for tests made necessary by the nature of the disability.

**Section(s) / CID du CoNRS :** sections 32-33-36-41

**Establishment strategy:**

This profile reflects the CNRS's desire to propose a set of inter-institute CPJ proposals, in line with its priority dedicated to interdisciplinarity. This profile is designed to bring together mathematics and the humanities and social sciences to address a major issue in ancient and contemporary societies. Some of the objectives of the CNRS COP are likely to be addressed (health-environment via the circulation of epidemics, territories of the future via human mobility, artificial intelligence via network studies, for example and among others) through this project, without exclusivity.

**Strategy of the host laboratory/laboratories:**

This profile was built by identifying two laboratory pairs, composed of a research unit in mathematics and a research unit in humanities and social sciences. The person recruited, depending on his or her field, will be assigned to one of the above laboratories and will be responsible for developing his or her project in close collaboration with the other laboratory. For the humanities and social sciences, the potential host laboratories come from several humanities and social sciences disciplines: archaeology, history, sociology. They have been chosen according to the possibilities of collaboration with mathematics opened up by their research themes and by the way in which these themes are envisaged; they are under joint supervision with establishments with which the InSHS wishes to develop privileged relations on this research subject.

**RNSR of the host laboratories:**

- 200411870P : PACEA de la préhistoire à l'actuel : culture, environnement et anthropologie
- 202123701A : MESOPOLHIS Centre méditerranée de sociologie, de science politique et d'histoire
- 200711916B : IMB Institut de mathématiques de Bordeaux
- 201420768T : I2M Institut de Mathématiques de Marseille

**Strategy for international attractiveness:**

The objective of this Tenure Track is to recruit an internationally recognized personality with a strong potential to supervise young French and foreign students. It will also be intended to strengthen and develop links with international partners.

**Summary of the scientific project:**

In order to develop a better understanding of issues related to the circulation of people, objects, goods, financial flows, and technologies, as well as to the diffusion of models, knowledge, and know-how, the propagation of viruses and epidemics, and rumors and fake news, the CNRS is recruiting a researcher to work at the intersection of the humanities and social sciences and mathematics on a junior professorship. This interdisciplinary collaboration will make it possible to co-develop, select and validate mathematical models capable of documenting, representing, quantifying and analyzing the consequences of these diverse mobilities, their similarities and differences, as well as their relationship to major contemporary social, economic, political, climatic and environmental changes, at different spatio-temporal scales, over time and not just in the contemporary period.

**Summary of the teaching project:**

Teaching will be discussed in relation to the site where the recipient will be assigned. He/she will be involved at each site in existing courses.

**Financial overview:**

Total funded on CPJ (including ANR package)	200 K€ + salary + specific package To be defined €
Co-funding	€
Total d1,1 project	€

**Scientific diffusion:**

The dissemination of the results will be achieved through scientific productions (publications, software, patents...) of world level. In addition, the project will implement a communication towards various targets such as scientific communities, media, decision makers, general public, schools, etc., with an adapted calendar. Specific tools will be developed such as websites, newsletters, meetings, international symposia, summer schools and conferences.

**Open science:**

The CNRS is developing a strong policy in favor of open science. Open science consists of making research results "as accessible as possible and as closed as necessary". As such, the CNRS aims to make 100% of the texts of publications resulting from the work of its units accessible, in particular through deposit in HAL. The data produced must also be made available and reusable, except for specific restrictions. In addition, the guiding principles of individual evaluation have been revised in accordance with the DORA declaration, to be more qualitative and to take into account all facets of the researcher's profession.

**Science and society:**

The relationship between science and society is now recognized as an integral dimension of scientific activity. The project will develop this dimension in synergy with all the partners. The resulting research work will contribute to informing public decision-making. Participatory science initiatives may be initiated with actors of the socio-economic and cultural ecosystem of the project.

**Indicators:**

The activity will be evaluated on the basis of scientific production (publications, software, patents, etc.), on institutional and private partnerships formalized by contracts, on international influence, on the valorization of work towards multidisciplinary scientific communities, on innovation and its transfer to society and on scientific dissemination to non-specialist audiences.