

National Center for Scientific Research

Project sheet(s) CPJ Junior Professor Chair (2026 campaign)

CPJ Project

Campaign: 2026

Project republished: No

Affected site: Marseille / /Lyon/ Bordeaux / Lille

In the case where your institution is multisite:

Envisaged partner institutions/organizations:

Name	Id
Centrale Lyon	fWJJA
Aix Marseille Université AMU	xJdyB
Université de Bordeaux	90I54
Université de Lille	U8a0v

Project name in French: Acoustique

Possible project name in English: Acoustic

Possible project acronym: ACOUSTIC

5 keywords characterizing the scientific project:

1. Physical acoustics
2. Audible, environmental and urban acoustics
3. Underwater and Ultrasonic Acoustics
4. Vibroacoustics
5. Acoustics for Biology and Health

Target duration: 5 years

ERC scientific theme: Physics

Institutional Strategy:

The chair focuses on acoustics, from infrasound to ultrasound, macro to nanoscales. The objective is to develop strategies related to climate, environmental, and societal challenges for applications in light fluids (industrial noise pollution, urban acoustics, etc.), heavy fluids (underwater acoustics, ultrasound, SONAR, medical acoustics, etc.), and solid media (seismic waves, vibrations, SAW - Surface Acoustic Waves, non-destructive testing and evaluation, etc.). The research will be performed in one of the targeted laboratories:

LMA is recognized in acoustics, ranging from infrasound to ultrasound (propagation in complex fluid and solid, sound synthesis, active control, underwater acoustics, geoseismics, materials characterization (NDT & SHM), bioacoustics, non-destructive testing and structural health monitoring, musical acoustics, sound perception, etc).

LMFA is recognized for its expertise in sound propagation in fluid media and aeroacoustics. It develops advanced modeling for infrasound, characterization of sources (volcanoes, lightning, meteorites, aircraft), acoustic propagation in geophysical flows, as well as impact studies (particularly wind turbines) or localization studies (e.g. drones), in collaboration with numerous industrial. It also has expertise in ecoacoustic analysis of the environment and in situ monitoring of animal populations.

I2M is recognized in ultrasound propagation across a very broad spectrum of frequencies, characteristic sizes, and supporting media. The fields of application include health monitoring of industrial materials and structures (for transportation and energy), and quantitative ultrasonic imaging of living matter.

IEMN is recognized for its research in various fields of acoustics, notably acoustic metamaterials, active materials, high-frequency detectors and SAW sensors, for applications in microelectronics, underwater acoustics, ultrasonic characterization, non-destructive testing (NDT) and acoustics in complex environments.

Describe how the recruitment is linked to the institution's strategy. If applicable, summarize the CPJ projects obtained in previous years and assess their initial results in the hosting laboratory's activities. (2000 characters including spaces)

Hosting Research Unit(s):

Name	Id
UMR7031 - Laboratoire de mécanique et d'acoustique LMA	199617659S
UMR5509 -Laboratoire de Mécanique des Fluides et d'Acoustique LMFA	199511953U
UMR5295 - Institut de mécanique et d'ingénierie I2M	201119386D
UMR8520 - Institut d'Electronique de Microélectronique et de Nanotechnologie IEMN	199812849E

Host laboratory strategy:

Candidate for the host laboratories must address one or more climate and/or environmental and/or societal challenges, by proposing disruptive solutions based on their areas of expertise in acoustics.

Summary of the scientific project (1000 characters including spaces):

The project associated with the CPJ ACOUSTIC focuses on the development of strategies related to climate, environmental, and societal challenges. The proposed research has to be applied and multidisciplinary, related to the sound environment (acoustic insulation, etc.), ecosystem monitoring (surveillance, animal protection, bioacoustics, etc.), the reduction of the acoustic impact of technologies (transport, industry, etc.), and the use of ultrasound (health, non-destructive testing, etc.). Concerning the application area, the research may include the exploration of disruptive new concepts, the development of original acoustic materials, the implementation of innovative experiments, and the use of advanced and realistic acoustic simulation tools. Furthermore, the use of artificial intelligence and data science will enable the simulation of complex scenarios and the optimization of designs.

Summary of the teaching project (1000 characters including spaces):

Candidates must propose a teaching plan (28 hours of lectures or 42 hours of practical or tutorial work) related to the theme of the CPJ ACOUSTIC.

Teaching will take place within the programs offered by the local academic partners, particularly Master's level programs, and all pedagogical approaches will be considered.

This teaching plan will be discussed and finalized after recruitment with the university partner of the laboratories.

Through the numerous Research Groups (GDRs) in which the targeted laboratories are involved (e.g., GDR Archi-META, GDR ONDES, etc.), thematic schools will also be established to train both junior and senior researchers in acoustics concepts.

Financial needs breakdown (1000 characters including spaces):

- Use of the ANR package: €200,000
- Total: €200,000

Strategy for international attractiveness:

The CNRS is a key player in international science. Across the globe, CNRS teams collaborate with the best laboratories, and each year, top-level foreign researchers join it. Its international policy aims to enhance the impact and relevance of its research. This is why the CNRS encourages and supports the development of international research projects, particularly in Europe (ERC and EIC), as well as collaborative exchanges (IRP, IRN).

Describe how recruitment is linked to the international strategy of the establishment (reception of foreign students, partnerships with foreign establishments, joint diploma project, participation in a European project, etc.) - 2000 characters including space

Scientific dissemination:

The dissemination of results will involve worldwide scientific advancements, which may be characterized by various outputs such as publications, software, patents, books, etc. Furthermore, the project will implement communication efforts targeting diverse audiences, including scientific communities, media, decision-makers, the general public, schools, etc., with an adapted schedule. Specific tools may be developed, such as websites, newsletters, as well as events like international meetings, conferences, summer schools, and symposia.

Expected results in terms of scientific dissemination (publications, communications, etc.): yes

If yes, describe its implementation:

The CNRS is committed to a strong open science policy. Open science aims to make research results "as accessible as possible and as closed as necessary." To this end, the CNRS aims for 100% of the publication texts from its research units to be made available to everyone, primarily through deposit in HAL. The data produced must also be made available and reusable, unless restricted for specific reasons. Furthermore, individual evaluation guidelines are revised in line with the DORA declaration, focusing more on qualitative aspects and taking into account all facets of the researcher's role.

Science and Society:

Does the project include communication with the general public? Yes.

If yes, please specify how and when:

The science-society relationship is now recognized as an integral aspect of scientific activity. The project will develop this dimension in synergy with all partners. The research outcomes will help inform public decision-making. Participatory science initiatives may be launched in collaboration with actors from the socio-economic and cultural ecosystem of the project.

Specify the indicators for monitoring the deployment of the project and the methodology for tracking them:

The activity will be evaluated primarily based on scientific output (publications, software, patents, books, etc.), institutional and private partnerships formalized through contracts, international outreach, the dissemination of work to multidisciplinary scientific communities, innovation, and its transfer to society, as well as scientific dissemination aimed at non-specialist audiences.