

CALL FOR APPLICATION

INSERM CHAIR Recruitment

Chondro-instructive materials and extemporaneous biofabrication of osteogenic grafts

The Inserm chair recruitments opened to Inserm are intended for researchers with strong potential to manage and lead research teams and participate in national, European or international projects.

This recruitment, based on research and teaching projects, is aimed at researchers with a doctorate or equivalent and a first post-doctoral experience. The position is offered on a fixed-term contract (CDD) with a view to tenure in the Inserm Research Directors personnel at the end of the contract.

How apply: <https://pro.inserm.fr>



Supporting institution:	Inserm : Institut national de la Santé et de la recherche médicale
Name of the head of the institution:	Pr. Didier Samuel
Academic region:	GRAND EST
Location/ Site concerned:	INSERM U1121 - Biomatériaux et Bioingénierie
Partner institution:	Université de Strasbourg
Research contact:	Phillipe LAVALLE : philippe.lavalle@inserm.fr
Administrative contact:	chaires-professeur-junior@inserm.fr
Research fields EURAXESS:	Biology and Health: Biomaterials (Medical Science)
Keywords:	Personalized innovative biomaterials, Adipocyte stem cells, Bone regeneration, Protein-based biofabrication, Bioprinting of bone grafts

Job title to be filled:	Chaire - Chondro-instructive materials and extemporaneous biofabrication of osteogenic grafts
Body after tenure:	Research Director

Anticipated duration of the contract:	3 years
Scientific domains/fields:	Biology and Health
Corresponding specialized scientific commissions (CSS):	Health Technology – CSS7
Project name:	Chondro-instructive materials and extemporaneous biofabrication of osteogenic grafts

Remuneration package	3 500€ - 5 000€ according to research experience
Quota	Full Time

Strategy of the host institution:

The French National Institute for Health and Medical Research (INSERM) is the primary public institution dedicated to biomedical and health research. Inserm conducts research with a focus on translating research findings into clinical and therapeutic applications that address current public health challenges. Partners include universities, hospitals, and international research organizations.

The proposed project develops a bone regeneration strategy by endochondral ossification, combines human cells, biomaterials, morphogenic factors and biophysical stimulation, explores 3D bioprinting and provides preclinical and clinical validation.

It is located at the interface of cell therapy, smart biomaterials, biomanufacturing and personalized medicine

The project therefore uses technologies with a high clinical and industrial impact. It responds to the challenges related to the aging of the population, the reduction of disabilities and the reduction of costs related to complex bone reconstructions. The recruitment of a CPJ for this project is fully aligned with Inserm's 2020-2025 Strategic Plan because it reinforces translational research, develops an innovative biotherapy, integrates rupture technologies, favours interdisciplinary measures, builds a strategic axis with a strong European potential, brings a solution to a major clinical need.

Strategy of the host laboratory:

The Biomaterials and Bioengineering Unit (UMR_S 1121) addresses challenges in the fields of materials for healthcare. The Unit develops a resolutely multidisciplinary approach, drawing on the expertise of clinicians, biologists, chemists, and physicists. This gives us strong in-house expertise from the design to the application of new materials. We are thus able to design a completely new material to meet a need identified by clinicians, and to conduct its preclinical and clinical evaluation in-house, enabling a rapid and efficient process. For example, we can design new implants, 3D structures for tissue regeneration, pro-healing hydrogels for the treatment of chronic wounds, and antibacterial coatings for medical devices.

Other clinical challenges related to the materials of the future will be studied in the coming years. For example, joint injuries (bone, cartilage, ligament, tendon) currently have very few satisfactory regenerative therapies and do not rely on the use of synthetic (bio)materials, but very often only on

autologous tissues, which has a significant impact on the patient. Thus, in recent years, the Unit has developed materials 100% based on albumin proteins, without chemical cross-linking processes, based solely on the self-assembly of this molecule (patent, AlbuPad startup, RHU BIOFACE and Interreg ALBUCOL projects). Among all the Unit's projects, we aim to extend the concept to other bio-based molecules to then design materials with unique properties (mechanical properties, tolerance, degradation, etc.).

Summary of the scientific project:

This project aims to develop innovative strategies for generating osteogenic grafts for the regeneration of congenital or acquired bone defects. The approach is based on the principles of endochondral ossification, seeking to reproduce the key stages of bone development to improve graft vascularization, integration, and functionality.

The objective is to utilize readily available human cells (particularly those derived from adipose tissue or other relevant mesenchymal sources) and combine them with instructive biomaterials capable of directing their differentiation toward a chondrogenic and then an osteogenic phenotype. Attention will be paid to the design of microenvironments combining structural supports, biochemical signals (growth factors, morphogens), and potentially biophysical stimuli (mechanical, electrical, or electromagnetic) to optimize the robustness and reproducibility of the regenerative process.

The project will integrate advanced biofabrication approaches, such as 3D bioprinting and the development of tailored bio-inks, enabling control over graft architecture as well as the spatial distribution of cells and bioactive signals.

This program is part of a strong translational dynamic, with evaluation in relevant preclinical models of bone defects and close collaboration with clinical partners of the laboratory.

Summary of the teaching project:

The candidate will be involved in the Biomaterials Master's degree which is organized in 2 courses within the University of Strasbourg: Biomaterials and Bioengineering of Health and Intelligence in Health Data (master's level M1 and M2). Innovative pedagogical practices will be considered. He will be strongly involved in the supervision of the Unit's student interns (Bachelor's, Master's, Engineering levels) and in the supervision of doctoral students.

National Research Agency package:	200k€
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Other package:	80k€
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Co-funding* Grant in Protein Biomaterials Unit (> €1M) – 80 000
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*source et montant

Scientific dissemination/ Open Science:

Scientific communication and dissemination: Scientific dissemination will mainly be publications in the best journals in the field of biomaterials and tissue regeneration. The Unit has an active policy in the filing of patents, and this innovative project will be fully concerned by this as well. Presentations on the project's results will be presented regularly at national and international congresses in the fields of biomaterials and tissue engineering.

Open Science: The Chairholder will aim to publish regularly in the best international scientific journals. He/she will communicate the results of his/her research at international congresses dealing with his/her fields of research and will participate in the organization and animation of scientific events in France and abroad. Finally, dissemination of the major results in the local and national mainstream media and during public events (conferences, scientific days) will be carried out.

Science and society:

Indicators:

The monitoring of the project's deployment will be based on a set of scientific, technological, preclinical, regulatory and organizational indicators. These indicators will be monitored in a structured manner through quarterly dashboards, biannual steering meetings and annual reports. Statistical analyses will be predefined, and procedures standardized to ensure reproducibility, data robustness and progression to a technology readiness level compatible with clinical transfer.

Selection of candidates:

It is expected the recruited researcher to become rapidly a group leader in the GAD team. So the candidate should demonstrate ability to supervise Ph.D students, post-doctoral fellow and technical support staff. She/he should have the capacity to obtain competitive funding to manage her/his group.

Successful candidates are chosen by a selection commission composed of six to ten members, the majority of whom are specialists in the fields of research concerned.

The commission carries out an initial examination of the applications, focused in particular on candidate experience and skills relative to the research and teaching project presented above. A shortlist of candidates is then selected for interview.

Only candidates selected by the selection committee on the basis of their applications will be invited to interview.

The interviews are followed by a deliberation during which selection commission will discuss the quality, originality and, where appropriate, the interdisciplinarity of the research and teaching projects presented by the candidates, their motivation and their scientific and teaching supervision capacity.

The candidates selected at the end of the selection process will be offered a researcher contract, following approval from the President and CEO of Inserm.

Required profile:

Education Level: **Phd**

Researcher Profile: R3/R4

R3 Established researcher A stage in a researcher's career describing those who have developed a level of independence and can be described as an established researcher

R4 Leading Research A stage in a researcher's career where they can be termed a 'leading researcher'. This would include the team leader of a research group or head of an industry R&D laboratory.

Your application will be evaluated according to the following criteria :

- Relevance and originality of the project related to the research field
- International exposure in research projects
- Your ability to raise funds
- Participation in editorial and reviewing activities
- Your teaching experience
- Your ability to lead a team...

Application instruction:

Applications can be submitted online at [EVA](#).

Deadline application: **September 2, 2026**

Please complete the scientific file in English.

It is imperative to contact the laboratory corresponding to the Chair you have applied for in order to build the project with them.

Position also open to 'Bénéficiaires de l'Obligation d'Emploi' (disabled persons), as defined in article 27 of law no. 84-16 of January 11, 1984 on statutory provisions for the civil service.